Two Lectures

ON

THE ANÆSTHETISATION OF SO-CALLED "DIFFICULT" AND "BAD" SUBJECTS.

Being the Emeritus Lectures on Anæsthetics delivered at the London Hospital on Nov. 21st and Dec. 5th, 1902,

BY FREDERIC W. HEWITT, M.V.O., M.A., M.D. CANTAB.,

ANÆSTHETIST TO HIS MAJESTY THE KING; CONSULTING ANÆSTHETIST AND EMERITUS LECTURER ON ANÆSTHETICS AT THE LONDON HOSPITAL; PHYSICIAN-ANÆSTHETIST TO ST. GEORGE'S HOSPITAL.

LECTURE I.

Delivered on Nov. 21st.

GENTLEMEN,—Before I proceed to the consideration of the subject which I have chosen for these two lectures I should like to take the opportunity of expressing to the medical school of this hospital my best thanks for the honour that has been done me in appointing me to this newly created lectureship. I can assure you that it is a great pleasure to me to address you again. But I am even more gratified, if I may say so without being thought to be discourteous, by the actual creation of the appointment, for that creation clearly indicates the determination which is now apparent in most of our medical schools to train students more thoroughly in the administration of anæsthetics. My only regret is that the first Emeritus lectures on anæsthetics at this hospital have been entrusted to one who is so unworthy to deliver them. My successors will, I venture to hope and to predict, make up for my deficiencies.

Although very few anæsthetics have been added to the list since ether and chloroform were first employed in practice there has been a steady development during the last 40 years in our systems and methods of anæsthetisation. The systems now in use have as their main object the safety and comfort of the patient, whilst the methods at our disposal are so numerous that whatever the special circumstances of a case may be a smooth and satisfactory anæsthesia may, with the rarest exceptions, be depended upon. But whilst this development has been taking place in our systems and methods another development, not perhaps quite so obvious as the former, has been noticeable in what I may term the type of anæsthesia. The analgesic intoxication of former times has become gradually replaced by deeper and deeper anæsthesia. Little by little, in fact, the demands of surgery have increased, and in order to meet these demands a heavy tax has been imposed upon a section of the medical profession.

The change in the type of anæsthesia to which I have alluded has had as its necessary consequence a change in the type of anæsthetist. In the early days of chloroform and ether the medical man who administered an anæsthetic had as his sole object the prevention of pain. Even at the present day one occasionally meets a survivor of the old school who, having lived in some remote district for nearly half a century and having failed to realise the great change that has occurred in the type of anæsthesia, attempts to carry on a conversation with his patient in the middle of an abdominal section. Formerly, any recalcitrant behaviour, unconscious struggling, movement, rigidity, embarrassed breathing, pulse failure, or undesirable after-effects were attributed to the patient, not to the anæsthetist. The scope for skill in anæsthetising was thought to be so limited that nurses and even domestic servants were often entrusted with the administration. When you leave your hospital you will find that if you administer anæsthetics at all in your practice your responsibilities will be considerably greater than were those of your predecessors. Modern surgery demands the services of efficient anæsthetists even in simple cases, and it is, therefore, your duty whilst at your hospital to make yourselves efficient. The movement now on foot of thus providing for the greater safety of the public—a movement at last endorsed by the examining bodies—must be fostered and strengthened, for it deserves—nay, it commands—universal support. The death-rate from anæsthetics—in other words, the risk a patient runs when he is rendered unconscious for a surgical operation—may be reduced to almost infinitesimal proportions, whilst the results of many surgical operations may be distinctly improved by placing the administration of anæsthetics in experienced and skilled hands. Unhappily, there are still a good many leading members of our profession who either do not realise this fact, or if they realise it do not pause to consider its significance; and so long as this state of things obtains, even amongst a section of the profession, we cannot be surprised at the apathy displayed by the public concerning their own safety. The opinions held by the laity regarding anæsthetics are almost ludicrous. They either believe that, provided their hearts are strong enough, they can take any anæsthetic with impunity, no matter who administers it, or they think that, the death-rate of anæsthesia being incapable of reduction by skill and experience, they personally are pretty certain to be marked out by fate for a disaster during the operation about to be performed upon them. You will often find, even amongst the ranks of the educated classes, people who will haunt Harley-street for a week with the object of settling whether they should or should not take a blue pill occasionally, but who will go to an unqualified and advertising dentist for the cure of toothache and cheerfully allow themselves to be dangerously asphyxiated by nitrous oxide or rendered pulseless by chloroform. It would, of course, be going rather too far to say that every accident that now occurs is preventable, but there can be no doubt that in each year's death roll there are many cases in which life has been unnecessarily sacrificed.

What do we mean by good subjects for anæsthetics? I take it that by a good subject is meant a patient who, whatever anæsthetic we may choose, gives us no trouble during its administration, inhaling it freely, displaying little or no excitement or inconvenient muscular spasm under its influence, passing quietly into deep anæsthesia without any respiratory derangement, remaining perfectly immobile during operations upon sensitive parts, and recovering with no unusual after-effects. Now a patient who behaves in this exemplary manner is entitled, I think, to be taken as a model and to be regarded, for our present purpose, as the normal type. I have on other occasions pointed out to you the common—and I had almost said the dangerous—fallacy of regarding the strong and perfectly healthy man as the normal and typically good subject for anæsthetics. He is by no means necessarily so. I have also alluded to the popular fallacy of regarding strong cardiac action as essential for safe anæsthetisation, the fact really being that patients with comparatively feeble heart action are, *cæteris paribus*, better subjects than those whose hearts are perfectly normal and vigorous. The explanation is simple enough. Putting out of the question the presence of advanced cardiac disease, there is a correlation between the heart and the general muscular system of the patient, and the greater the development of the latter the greater will be the tendency for the patient to give trouble to the anæsthetist by muscular rigidity and consequent respiratory derangement. It hence happens that the comparatively feeble individual, as exemplified by the chronic invalid whose skeletal and cardiac muscles have undergone some degree of atrophy, passes quietly into deep anæsthesia. Speaking in general terms, therefore, it may be said that the patient with the "weak heart" is, of the two, a better subject for an anæsthetic than the patient with the strong heart—a totally different doctrine to that which is generally accepted. As our normal or perfect type of patient for anæsthetics we may, therefore, take middle-aged women in moderately good health, of spare build, sallow complexion, placid temperament, and moderate habits, possessing a free nasal air-way and somewhat defective teeth. These are, in my experience, the best subjects for anæsthetics. No matter what agent may be chosen or what method of administration may be adopted, patients of this type will, in the vast majority of cases, enter into, pass through, and emerge from anæsthesia without giving the slightest trouble.

As we depart from this the normal type of subject we begin to observe corresponding departures from an almost ideal anæsthesia. Younger women, for example, tend to display rather more muscular rigidity as they pass into deep anæsthesia, whilst the greater secretion of mucus and saliva

may interrupt the smoothness of administration. Women who hunt or habitually take other forms of outdoor exercise will often give a little trouble to the anæsthetist, especially during abdominal operations. Elderly women, again, although good subjects, may be so susceptible to anæsthetics as to alarm an inexperienced anæsthetist, or, by reason of senile changes having taken place in their respiratory mechanism, they may not breathe as freely as younger subjects. Thus, a full dose of nitrous oxide free from oxygen administered to a thin woman from 70 to 80 years of age, whose chest walls have lost their elasticity, may readily lead to suspended breathing. Anæmic, exhausted, and even emaciated patients are often remarkably good subjects for anæsthetics unless the anæmia or exhaustion be of acute origin or the patient has been in former times of powerful build, very obese, or of intemperate habits. Care is needed not to over-anæsthetise such subjects.

Men are, as a class, not so satisfactorily affected anæsthetics as women; but young men approaching in type to what has been termed the normal give little or no trouble. When I come to discuss more particularly difficult and bad subjects you will find that most of the remarks that I shall make apply to men. Children are generally said to be good subjects for anæsthetics and from some points of view this statement is correct. Taking everything into consideration, however, I regard children as somewhat less satisfactory subjects than women of the type to which I have referred. A considerable time may be required to anæsthetise infants; the signs of anæsthesia are not always reliable; and when once the full effects of the drug have been produced great care is needed to avoid over-dosage. Children are certainly less liable than adults to give trouble from muscular excitement, and should suspended breathing take place remedial measures are comparatively easy of application; but the great liability in children to the free secretion of mucus, the frequency with which enlarged tonsils and adenoid growths are present, and the readiness with which vomiting occurs, not only in comparatively deep anæsthesia but after the administration, may, individually or collectively, account for difficulties. Of all the patients one meets in dental practice the healthy schoolboy is most likely to suffer from nausea after nitrous oxide mixed with oxygen, whilst it is often difficult with such a subject to obtain the best results during an abdominal section.

What do we mean by difficult and bad subjects? I take it that under this heading may be included all patients who, unless skilfully treated, display marked excitement, rigidity, and a tendency, even though deeply anæsthetised, to inconvenient reflex phenomena, or, apart from the administration of an over-dose, pass into a dangerous state or actually die. I must again in this connexion impress upon you the fact that the patients whom we are now about to consider are not necessarily the subjects of any grave malady. They are often, indeed, patients who have never had a day's illness. This is an exceedingly important matter and it is to my mind as interesting as it is important.

Difficult and bad subjects may be conveniently considered under six headings. 1. Patients whose general health is good—possibly exceedingly good—but who possess some physical peculiarity rendering them more or less liable to intercurrent embarrassment or arrest of breathing. 2. Patients whose respiratory tract is in some way encroached upon or whose respiration is in some way hampered by pathological or other conditions. 3. Patients suffering from certain grave visceral or constitutional affections. 4. Highly nervous and excitable patients; those suffering from various nervous affections; and those who have become addicted to the excessive use of alcohol, tobacco, morphine, or other drugs. 5. Patients displaying in a state of combination or association the characteristics of two or more of the foregoing classes. 6. Patients who prove to be difficult or bad subjects without any discoverable cause.

1. The possession of a well-developed muscular system is often responsible for delay and difficulty in anæsthetisation, a fact which although applying particularly to men is not inapplicable to women. Vigorous and muscular men should, whenever possible, be anæsthetised by ether rather than chloroform. If the surgical requirements of the case call for the latter anæsthetic it should be given after anæsthesia has been obtained by the former. The large number of fatalities from chloroform which have occurred in patients of this type should teach every medical practitioner a lesson. The explanation of such accident is to be found in one or other of the following considerations. In the first place vigorous patients require larger doses of an anæsthetic than other subjects in order that muscular relaxation may be produced, the result being that the anæsthetist progressively pushes his anæsthetic and often pushes it too rapidly. In the next place, such patients are more liable to excitement and struggling than others, so that during the stage of excitement intercurrent asphyxia from muscular spasm is liable to occur, and should it occur the chloroform vapour which has been imprisoned in the lungs is absorbed in dangerous quantities. And, lastly, these subjects may give trouble from the presence of laryngeal mucus which in deep anæsthesia may actually cause arrest of breathing. Nitrous oxide and ether administered by a wide-bore inhaler produce admirable results in vigorous subjects, ether having a great advantage over chloroform in that it can be safely pushed till relaxation occurs. A word of caution is necessary in dealing with the cases in which a change from ether to chloroform is effected. The change must never be made during any muscular excitement or struggling. This stage should be allowed to subside, a cough encouraged, and the substitution then effected.

The symptoms displayed by patients during anæsthetisation are largely dependent upon the physical conformation of the upper air passages and particularly upon the number and arrangement of the teeth. Provided the nasal passages be wide and free breathing may take place wholly through the nose, and this state of things may be satisfactory so far as the anæsthesia is concerned. But in a large number of cases the nasal air-way is either unavailable or inadequate and nature thereupon endeavours to force a passage through the mouth. In most cases she is more or less successful, but she often finds herself heavily handicapped owing to the teeth meeting one another very accurately, or to the swollen tongue pressing itself against them. The anæsthetist should realise the situation and assist nature in her endeavours by slightly separating the teeth by means of a mouth-prop. Patients with large and overhanging upper teeth are specially liable to give trouble to the anæsthetist, for they tend to become very stertorous or to stop breathing altogether. This is owing to the difficulty or impossibility in such cases of pushing the lower jaw forwards in order to bring the tongue from the pharynx. It is generally advisable with such patients to place a small mouth-prop between the teeth either before the administration or soon after it has commenced. Long, irregular, and interlocking teeth are equally liable to fix the lower jaw and hence to favour occlusion of the air-way. Speaking generally, oral breathing is to be preferred to nasal breathing, and it is especially necessary to secure it in patients with good teeth and powerful jaws. I have notes of several cases in which the neck was so thick and large as to obliterate completely the contour of the lower jaw, and in most of these cases I had some difficulty in keeping a free air-way owing to it being next to impossible to push the lower jaw forwards in the customary manner. Of late years I have in a large percentage of my cases inserted a small mouth-prop between the teeth soon after consciousness has been lost, and I find that my results have been thereby improved. The advantage of oral breathing over nasal breathing is, in fact, so great that I am almost inclined to advise you to use a small mouth-prop in every case, inserting it rollerwise after consciousness has been lost and before the operation commences. Middle-aged men of powerful build, with red shiny cheeks, thick necks, and good teeth, require careful handling, especially during the induction of anæsthesia. They belong to what may be called the "John Bull" type. They are best anæsthetised by administering a mixture of chloroform and ether (two of chloroform to three of ether) throughout, or by using this mixture up to the point at which the stage of rigidity begins, changing temporarily to ether, and continuing with chloroform. If the nitrous oxide-ether sequence be employed a mouth-prop must be inserted before starting and a wide-bore inhaler used, any difficulties which may arise after the stage of rigidity has passed off being met by changing to chloroform. The advantage of the C.E.-ether or the nitrous oxide-ether sequence over the continuous administration of the mixture or of pure chloroform is that the stage of rigidity and struggling may be nearly or completely eliminated. I have anæsthetised a few patients of the "John Bull" type, in the sitting posture, for operations within the throat and I have found my resources somewhat taxed when hæmorrhage has been free. Such patients are also difficult subjects for abdominal section and

particularly for such operations as thyrotomy for the removal of a laryngeal growth. In one case, that of a powerfully built man who had had half his larynx removed on a previous occasion and who had then given me some trouble owing to the difficulty of keeping up deep anæsthesia by means of a Junker's apparatus, I administered a small quantity of morphine before the chloroform and obtained a very marked improvement in my results. Obese subjects, if only obese, are not as a rule difficult to anæsthetise, but if the obesity be associated with such conditions as an inadequate nasal air-way, perfect teeth, or a receding lower jaw, if it be grafted on, so to speak, to a previously well-developed muscular system, or if the patient be alcoholic or a great smoker, a good deal of difficulty may be experienced. As a general rule, the mixture of chloroform and ether administered slowly produces better results than ether or chloroform.

The commencement of an operation before perfect anæsthesia has been produced is in most cases unattended by anything more than inconvenient reflex movement. There is no conclusive evidence, to my mind, that the circulation is specially liable to be depressed by operating in moderately deep anæsthesia. But in certain subjects, and particularly in muscular and obese patients, the commencement of an operation during moderate anæsthesia is strongly to be deprecated owing to the reflex suspension in breathing which may result. This particularly applies to rectal surgery. I have notes of one case in which this reflex suspension of breathing seemed to be the starting point of an asphyxial condition which was with the greatest difficulty overcome. It is highly probable that this state has often been erroneously regarded as primarily cardiac. In heavily built and obese men, with flabby tissues and thick necks, any interference with free breathing may quickly lead to such swelling of parts within and about the upper air passages as to completely occlude them. Further clinical observation may perhaps enable us to state what traumatic stimuli are most likely to interfere with respiration during moderate anæsthesia. The point is important, not so much in relation to fairly healthy persons, such as we are now considering, but as regards patients who are dangerously ill and who cannot with safety be deeply anæsthetised. Fortunately there seems to be far less tendency for such patients to respond either inconveniently or dangerously to the stimulus of an operation begun during partially established anæsthesia.

An Address

ON

THE PROBLEM OF INFECTION AND IMMUNITY IN TUBERCULOSIS AND THE ISSUES INVOLVED.

Delivered before the West Somerset Branch of the British Medical Association at Taunton on Oct. 31st, 1902,

BY SIR HUGH R. BEEVOR, BART., M.D., F.R.C.P. LOND.,

PHYSICIAN, CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST PHYSICIAN, KING'S COLLEGE HOSPITAL.

GENTLEMEN,—I thank you for the honour of the invitation to meet you and I crave your indulgence for my selection of so commonplace a subject for my address, but as this subject is equally interesting and important to us all I shall, I hope, gain your ready sympathy. The revolutions in diagnosis, prognosis, and treatment of tuberculosis have been rapid, especially when attacking the lung, and it is to the lung that I shall devote my attention. However, it is not these aspects of tubercle upon which I would dwell, but rather upon problems which, while of long-standing interest to our profession, have recently taken their place in the arena of the town-hall and the county council chamber as subjects for public discussion. I refer to the problems of infection and prevention. The public will be appealing to us for guidance and it is well that we should take stock of our knowledge and form a reasoned opinion. The cry is "Educate the public," and we are the educators.

Let us presume that as their first lesson the public are learning the resolutions passed by the British Congress on Tuberculosis of 1901—viz., (1) that spitting in public should be suppressed; (2) that it is necessary to provide sanatoriums for consumptives; and (3) that they should do away with tuberculous meat and milk—a lesson in which we all heartily concur. The first is a matter at least of simple cleanliness, the second is a judgment based upon ample experience worked out first in other lands, and as to the third the meat and milk are simply tested for their purity like any other food. But we all recognise that it was not on such common general grounds that a congress was anxious to pass good resolutions: it was upon one main ground—the fact that tuberculosis is now recognised as ranking among diseases which are infective diseases. The educated public appreciate this and are asking, Is it not very infectious? This is what we have to answer and desire knowledge of; this degree of infectivity it is that we must state; the conditions of risk we must lay down, for it is our duty to consider our patients at least as much as their neighbours, and our patients will suffer, and suffer severely, if credited with an evil eye that is not theirs.

Professor G. Sims Woodhead has recently written, "Tubercle bacilli may become so modified that they can flourish saprophytically." Dr. Kanthack stated that the organism of tuberculosis was capable of thriving outside the animal body, while Dr. Sidney Martin stated that it had no independent existence. The variation of medical opinion, nay, in many cases the irreconcilability, upon the point of infectiveness, may be gathered from the words of speakers at the recent autumn conference at Berlin. From abstracts of their communications, representing medical opinions, I select the following quotations as evidence. Professor Sangman protested that "the utility of spreading among the public the fear of contagion by prescribing preventive measures such as partitions between each two persons sitting in offices and workshops as advised by Flügge is doubtful." Dr. C. Savoire, speaking of workshops, schools, and offices, said of curable and incurable tuberculous persons "they would, in all cases, be separated from other people." Dr. S. von Unterberger wrote that "the contagion of tuberculosis in hospitals is not to be feared," while Director Gebhard stated that "the homes for disabled consumptives will have to be built so that their neighbourhood is not a danger of contagion and that every danger is as much as possible removed from the persons in good health who frequent it or are employed in it." Dr. C. Denison said: "To my mind the difference in importance is as 10 to 1 between the subject of susceptibility and immunity on the one hand and infection and virulence on the other"; and to that point Dr. Denison desired to direct the discussions.

You will see that I am not tilting at windmills when I mention instances of the disabilities that are already afflicting some patients abroad. "In some parts of France they have had to abandon the idea of sending into the villages single patients of the working class, however strictly selected and although free from bacilli, for the peasants greatly fear tuberculosis, and for their cattle's sake, not for their own health." The Bethel (Sullivan County) board of health has adopted an ordinance imposing a penalty of 10 dollars for the first offence and 50 dollars each week, for entertaining a stranger or guest affected by tuberculosis other than immediate relatives or those dependent on the family. Let us mark how the sufferers from this sub-infectious malady differ from those suffering from most infective diseases: they are adults, not children, and the term of their illness may be counted by years, not weeks; moreover, as often as not, their powers of work are efficient. If we had sanatoriums in plenty and funds to replace the earnings of bread-winners it would not even then be necessarily right to follow the lead of the peasants of France or the board of health of Bethel. As we are not yet, however, sufficiently endowed with these aids, let us at least recognise that any exaggerated statement of the infectivity of tubercle will induce similar hardships in this country, together with other hardships consequent upon social taboo, whilst the ultimate result may well be an increase and not a diminution of tuberculosis.

The present state of our knowledge may be, broadly, gathered from two regions: (1) the region of biology, pathology, and comparative pathology; and (2) the region of experience in the present and the past, the incidence of the disease in man. Now the evidence collected in either region

cannot be said to conflict nor can it be said to coincide; it is conspicuously incomplete and links of association are evidently missing.

In the field of biology one may briefly note tuberculosis of man, of bovine origin, of birds, and of fish. Between bovine and human tuberculosis I shall not attempt to draw distinctions, however real may prove those differences which Professor Koch in 1901 impressed upon us and recently reiterated. Small though be the amount of transmissibility from cattle to man which Professor Koch admits, even that is sufficient to give inherent probability to those experiences in America related by Professor Ravenel in 1901, and recently at the Berlin meeting by de Schweinitz and E. C. Schroeder, besides the recent results of Dr. G. Dean and Dr. C. Todd at the Jenner Institute, and it is sufficient to make us believe that bovine and human tuberculosis are convertible if not identical.

In birds avian tuberculosis, we learn, is with difficulty convertible into the mammalian form in guinea-pigs (Nocard).

From fish and slow-worm cultures have been shown at the 1901 congress of great interest, as both had their origin in association with tuberculous sputa. In the fish the cultures were obtained from a carp found in a pond contaminated with tuberculous sputa; the slow-worm had been previously infected with tuberculous sputa by Dr. Moeller. Now in either case a bacillus is found growing best at the low temperature of 22° C. and not pathogenic to warm-blooded animals. One would not think of associating it with tubercle but for the history. If it be a transmuted tubercle bacillus its vagaries transgress the lines that usually mark specific difference, so that the discoverers would place it among the acid-fast bacilli only and not name it bacillus tuberculosis. These acid-fast bacilli need not detain us, except one—the timothy-grass bacillus. This will grow at the same temperature and produce the same lesions as tubercle, but Moeller, its discoverer, finds by virulence and culture character that it is not tubercle nor is it convertible; the less initiated might well hesitate to class it. Other acid-fast bacilli are of interest as pitfalls for the unwary who rely upon one or two bacilli as sufficient ground for a diagnosis—they come from butter, grass, manure, and other sources. Thus we see that the tubercle bacillus no longer stands alone—it is one of a class widely spread in nature. A classification of tubercle bacillus has been made. Many students of morphology separate it from the bacteria, the class that provides most of our discovered infective agents, and place it with actinomycosis among the bacteriomyces—a step nearer the moulds. Our knowledge of the bacillus (as we will still term it) of tubercle outside the body has not advanced. Coates has confirmed and extended Cornet's researches in dust; he did not find it in 10 dirty houses that had been for some years free from tubercle. I have not come across other searches for it in a habitation supposed to be free from contamination.

In pathology recent work has been mainly directed to determining the site of inception and to see how far a necropsy sustains the opinion that milk is the source of infection in children. Judging from gross lesions the more advanced lesions of the mediastinal glands have been taken to suggest primary pulmonary infection in the vast majority of tuberculous children. I think, however, that I see a desire to propound a theory where evidence cannot be forthcoming, a theory that bacilli may pass through a mucous membrane without breach of surface. Seeing that the tonsil though not ulcerated yet may be supposed often to pass the bacillus on to the glands of the neck, I am inclined to support these theorists and to suggest that, after all, the early affection of the mediastinal glands may pass through the squamous epithelium of the œsophagus. The inert bacillus requires a conveyance, the salivary corpuscles would suffice to carry the bacillus through the wall, stopping at the lymphatic gland; the gland most frequently affected in children lies on the œsophagus in the fork of the bronchi and trachea. I commend this view only for future testing, but I am glad to find a particle of supporting evidence. Mr. S. G. Shattock last June showed primary tuberculosis of the œsophagus in a python. He remarked that in man it was only known by direct extension and was not primary, but there was no lymphatic structure in the human œsophagus as in that of the python, but most remarkable of all was his statement that infection had occurred by invasion between the cells of the epithelium which remained intact without any ulcer.

The work of Professor Benda has made plain some of the puzzles that exercise our minds in the contrasts of acuteness and chronicity in tuberculosis. The acute general tuberculosis and the tuberculous meningitis of general infection in children come, as it were, by anatomical accident. Their acute symptoms are not apparently referable to any specially virulent strain of micro-organisms, but to the suddenness of their access to the blood stream. This access is from the frequently advanced disease of the mediastinal gland, which while being thoroughly permeated by advancing bacilli, is the final barrier—their next outlet is into the thoracic duct and blood stream. Like the power of a drug intravenously injected, these toxins owe the acuteness of their symptoms to the fact that they travel directly in the circulation. Further, the bacilli make their home now on the walls of the blood-vessels and so can continue to administer poison as rapidly as ever unless checked by thrombus formation. Then in our conceptions of variety in virulence we must remember the varied path of extension. Another instance is the unfortunate experience, common to many of us, of a patient with phthisis who is rapidly improving but who is suddenly seized with a pleurisy that spreads over all the pleura, hampering respiration and pouring poison of tubercle into the system; this owes its source often to a mediastinal gland from which disease has had outlet to the pleura.

Comparative pathology I may only touch upon. Nearly every other animal that dies in the Zoological Gardens gives, I believe, proof of its proclivity to tubercle and *per contra* I am not aware that any animal whose life was spent in a state of nature has ever been found to die from tubercle. Cattle, like children, have a special proclivity to advanced infection of the mediastinal glands—90 per cent. was the proportion of this lesion in a recent inquiry by Professor McSweeney. The most interesting and striking evidence of contagion in cattle may be read in Professor Bang's successful prevention of the disease in calves by their segregation. The comparative virulence of bovine tuberculosis may be a factor in its spread, but the more simple explanation is the way in which cattle use their tongues upon their coats, their mangers, and their neighbours. What a dose they must take. If we should feel alarm, taking the infection seen in European cattle to apply to ourselves, let us take solace in the immunity of cattle in Japan which may as logically be applicable. In any case we should avoid pressing analogy between animal and man too closely. In cattle the veterinary surgeon applies tuberculin and he sees the cattle slaughtered. So thorough and complete a view of the disease exposed to the eye of the pathologist cannot be exceeded. He can thus calculate with accuracy its prevalence, with the astounding result that roughly a million of the kine of Great Britain and Ireland are found affected. Besides milk containing bacilli we now know that the urine is often bacilliferous though there be no renal disease, and an enteritis may allow of vast numbers of bacilli being cast upon the ground. Many countries are trying to get free from the disease by the slaughter and isolation of cattle; some have desisted owing to the magnitude of the task. Victoria has had healthy herds to deal with and has been at work many years, but the extinction of the disease does not seem to be yet in sight.

Turning to the other region of our knowledge—our present and past experience of the disease in man—we find educated (that is to say, medical) opinion holds this view of infection. "Healthy persons run a distinct risk if the contact between themselves and the phthisical sufferers is close and prolonged." Instances of the risk occur to us; a few have been published from time to time. However, in 20 years so little evidence has come forth of the kind to be expected after the discovery of the bacillus that I think it probable that professional experience will, as a rule, agree with the experience of the observers in British sanatoriums who thought that they traced infection in 2½ per cent. of 700 cases. No doubt the over-estimate of the influence of heredity prevented any such view at all occurring to any but one or two medical men before our attention was aroused by Villemin and Koch.

I attempted to study past experience of a generation of phthisis in England a few years ago; it was a simple voyage of discovery. The returns showed that the amount of phthisis deaths varied with sex, with age, with general mortality, with place and time, food and air; the relation to all of these could apparently be traced but one could not trace infection. Rural phthisis had been stated to be due to foci of infection, village infection; but if inquiry were pushed and one probed into parish records it remained untraceable. If we take the extra phthisis death-rate of a county asylum as representing for the sake of

argument a small epidemic, that will infallibly mark the phthisis rate of that rural union (not parish) as much heavier than any of its neighbours. One could not find in ten-year periods epidemics which would at all equal the extra rate due to the presence of an asylum. The amount of variation in the factors which I have mentioned was almost enormous. For instance, taking sex—between the age of 10 and 15 years 200 girls die to 100 boys; taking time—then 40 years back those 200 girls would have been 500; and taking place either now or then—500 in Somerset would mean about 1000 in Northumberland. The place factor is really the overcrowded house, and the time factor is the food-supply. While not finding evidence of infection like that of other infectious diseases I allow that the conditions of the search would not detect so small a percentage as 2½ or even 5, but I believe that I am justified in saying that there is not the accidental rise or fall that would indicate chance infection as in other infectious diseases to an extent of 10 per cent.—it might well be *nil*. Is there any explanation why such evidence should not be forthcoming? It has been suggested by some writers that the latency of tubercle affords a solution of the problem. There is a kind of latency (visible to the anatomist when he finds old cicatrices) which is common but very unequally distributed, being much more frequent in the old than it is in the young. Now the frequency in incidence of phthisis is greater in the young; further, latency if it took the line of origin of other infective diseases would show the same rise and fall and therefore this theory affords no solution. The only kind of explanation to my mind is an inference which is not infrequently uttered, "We, all of us, repeatedly are exposed to infection."

Returning to our more definite experiences, while evidence of infection is in the main negative, evidence of immunity is of a positive character. The prevention of phthisis taught us how to measure our ventilation and by that means afforded to the artisan a large extent of immunity. That was 40 years ago; just at present we are realising from the sanatorium and by the expositions of Dr. A. Ransome that by using a higher standard of ventilation a higher degree of immunity will be afforded. From 1865 to 1897 the mortality from phthisis in boys from 10 to 15 years of age fell from 100 to 32. During these 32 years no action was taken owing to any idea of infection; indeed, aggregation was increased by density of population and by school attendance to a three-fold extent and risks of infection must have increased accordingly. Their diminished death-rate was due to avoidance of malnutrition, of the infectious fevers, and to a less degree to avoidance of bad air and faulty sanitation. Recently we have been improving our workhouse dietary, and still we have the "out-of-works" as our most frequent patients. Having on a former occasion[1] detailed much of this evidence I will not delay you by repetition. It is evident that the defensive powers of a healthy man can cope with the attacks of the bacillus; and these powers are infinitely greater in him with regard to tubercle than when they are placed in opposition to the attacks of the bacilli of other infectious diseases. In tubercle, therefore, the first aim should be to reinforce such defence by attention to nutrition, ventilation, and sanitation.

Let us consider next those persons whose contact with sufferers from phthisis is close and prolonged ("close" one considers an attribute of the room too small to ventilate well); are they to be considered unresponsive to the reinforcing of their defensive powers? Some unfortunately are so, but they are much less responsive to any other line of policy. In speaking of these I am referring to the "submerged tenth." Others are very responsive, such as inmates of asylums, and a policy of segregating these for tuberculosis which has been begun should be copied at all those asylums where there may be this close and prolonged contact of the unaffected with sufferers from phthisis; at the same time the standard of air-supply, food, and sanitation should be maintained. In workhouses similar tactics may well be pursued.

We see how our attention has to touch on very many points necessary to achieve success in preventive measures. Accordingly our education of the public should be so broadly based that they may learn what are the conditions which make or mar healthiness of life. To effect this I would strongly recommend that the elements of hygiene be forthwith taught in our primary schools.

[1] THE LANCET, April 15th, 1899, p. 1005; Brit. Med. Jour., August, 1901; Catalogue of the Museum of the British Congress on Tuberculosis, 1901.

There is a hiatus between the cultural experimental and dead-house evidence of the working of the bacillus on the one hand, and our present and past experience of the incidence of the disease among our patients on the other. In one case the life-history can be followed throughout and with precision the bacillus can be traced from point to point. In the other there is a fatal precision of death that marks so many attacks, but the bacillus is not traced.

We wish to deal with evidence, not theory, and there is usually no evidence upon the source of the infection according to our experience. It is open to one to argue that it is all of human origin, of bovine origin, or even derived from acid-fast bacilli of unknown powers of transformation.

> "There are more things in Heaven and earth, Horatio,
> Than are dreamt of in your philosophy."

We do know this, however, that as the disease bears no relation to density of population outside the home itself, nor any relation to the frequency with which the healthy meet the sick (of which latter medical attendants and patients form a notable instance), therefore the disease is not infectious in the sense employed in speaking of the infective fevers. Then, I say, we shall be wise to utter no more than belongs to our own experience; "healthy persons run a distinct risk if the contact between themselves and phthisis sufferers is close and prolonged." Those utterances abroad one is glad to find without parallel at home; yet here and there we see signs of our leaders in public health taking theory to work upon rather than experience.

I read a suggestion of a most admirable provision for dispensary, sanatorium, and hospital accommodation for consumptives at Liverpool. I would desire to see this scheme realised, for it is to a sanatorium especially that one looks as the great technical educator in the prevention of phthisis. In this suggested scheme Dr. Nathan Raw promises "that by isolating the incurable cases the municipality can largely prevent the disease." From what I have already put before you I believe that such is not the present expectation—i.e., balance of probability. And how greatly will a statement like that tend to procure the fulfilment of Dr. Raw's own prophecy, "In a few years it may be a matter of extreme difficulty, if not an impossibility, for a consumptive to find ordinary means of employment." For his scheme Dr. Raw finds that a halfpenny rate is necessary. Many a ratepayer would gladly add to that halfpenny a sufficiency to replace the bread-winner's earnings. Such an addition to the scheme I deem essential to its success. Let us hope that Liverpool will never seek such avoidance of the sick as first prevents employment and then allows a consequent depletion of the sufferer's pockets, a depression of his spirits, and in the end a crop of tubercle in his impoverished family.

And what are we to do in the future? For the cattle, plenty of fresh air, sunshine, and slaughter of visibly affected beasts—it is in this order that the chief inspector of Victoria proclaims his method. If we essay complete prevention why not attempt it first in some limited area like the Isle of Man?

Among our patients we cannot fail to recognise how enormous is the proportion of the phthisis of to-day which exists in the lowest wage-earner, the most ignorant of the poor. Are we going to pillory the educated clerk for no risk or for an infinitesimal one, while these uneducated folk remain, whose potentialities for danger, by whatever standard we may measure them, are infinitely greater and cannot be dealt with? If we do allow this we diminish the food or house room of a bread-winner and create the predisposition to tubercle in his family.

The term "infection" is too loose a term to apply to both measles and tuberculosis. When its use does damage to the workman's prospects it is perpetrating an injustice upon him; "sub-infectious" is a more proper term to employ in public health. By difference in the kind and mode of infection, and still more by the greater difference in resistance to the disease, our patients differ from cattle and the argument of isolation does not apply. When we see the poor results in the isolation of infective fevers by hospitals for fever, those who rank tubercle as most highly infectious must seriously doubt if it is a right policy to apply such a system to tubercle. No, we must proceed in the interests of all by education and attention to the wants of the people in food and in air, and we shall see the successes of the past excelled by the higher successes of the future.

I earnestly hope that the medical profession at large will not encourage the public to avoid their tuberculous fellow

creatures. Such a course will not, in my opinion, diminish the amount of tubercle. It will, however, infallibly swell the ranks of the unemployed, it will depress the phthisical wage-earner's spirits, it will empty his pockets, and ultimately, by want and distress, reduce his family to that condition of low vitality which the tubercle bacillus requires for a successful invasion.

In conclusion, gentlemen, I would urge you, as the educators of the public in these matters, distinctly to let it be known that tubercle is not highly infectious. State that it is not a disease that requires isolation and that only under certain quite exceptional conditions does it appear to be infectious at all. Insist that healthy people enjoy extraordinary immunity, that fresh air and open windows are the great armour against its attacks, and that the instruction of the young in the general principles of hygiene will prove more valuable eventually than the isolation of the unwilling artisan or the excommunication of the clerk.

AN IMPROVED METHOD FOR THE MICROSCOPICAL DIAGNOSIS OF INTERMITTENT FEVER.

BY RONALD ROSS, C.B., F.R.S., F.R.C.S. ENG., D.P.H.,
LECTURER ON TROPICAL MEDICINE AT UNIVERSITY COLLEGE, LIVERPOOL; WALTER MYERS LECTURER AT THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE; LATE MAJOR, I.M.S.

IN the Harben lecture, delivered at King's College, London, on Nov. 10th, 1902, I described in detail the method referred to in this note[1]; but as the matter may be of interest to a large number of practitioners I think that it would be advisable to publish a brief description of it here.

There are at present two methods in universal use for the detection of the parasites of malaria. Both consist in spreading out over a large area a small quantity of blood. In one method the blood is examined in a liquid state and in the other it is dried. In both cases about one cubic centimetre of blood is spread out over about four square centimetres of area, so that the film of blood is a very thin one. This attenuation is necessitated by the fact that a thick film of blood is too opaque to permit of the easy detection of the parasites through the mass of hæmoglobin. Unfortunately, the attenuation, though required for the reason mentioned, has one great disadvantage—namely, that if the parasites are scarce we are compelled to search in many fields of the preparation in order to find them, and it is obvious that the number of fields which we must examine varies directly with the scarcity of the organisms.

It has long occurred to me that we should be able to detect the parasites in a thick film if only we could succeed in treating the blood in such a manner as to do away with the obscuring effect of the massed corpuscles. The method which I adopt for this purpose depends upon the fact that the parasites, even the smallest of them, adhere to the stromata of the corpuscles which contain them; so that, as long as we retain these stromata we retain the parasites. Now the opacity of a thick mass of blood is due, not to the stromata of the corpuscles, but to their hæmoglobin and it is easy to wash out this hæmoglobin without washing out the stromata, either in a dried film of blood or in a dilution of blood.

I have tried numerous variants based upon these considerations, but I select the following as the simplest and easiest for general adoption. The finger is pricked by a lancet-shaped needle or by the point of a lancet. A large drop of blood, amounting to, say, 20 cubic millimetres, is taken up on the glass slide or cover glass and is *slightly* spread out by means of the needle or lancet—that is, it is spread over an area which can be covered by an ordinary cover glass. It is then allowed to dry, either naturally or over a flame (without heating so much as to fix the hæmoglobin). The result is that we have a thick dried film of blood in which about 20 cubic millimetres of blood (instead of the one cubic millimetre generally used) are disposed over an area which is not larger than the area of blood usually examined by the ordinary processes. As soon as the film is perfectly dry I lay upon it by means of a glass rod a quantity of aqueous eosin solution sufficient to cover the film of blood. The solution is the one which is usually employed in order to obtain the Romanowsky effect. It is allowed to remain upon the film of blood for a period up to about a quarter of an hour. This period should be inversely proportionate to the strength of the solution. As the film of blood has not been fixed the solution of eosin will take out the hæmoglobin of the dried corpuscles and, at the same time, will stain the residual mass consisting of the stromata of the corpuscles, the leucocytes, blood plates, and parasites. After the solution has remained upon the film for the period required it is washed off by a very gentle stream of water. As the film has not yet been fixed to the glass it is most essential here to use no strong current of water, or else the whole of the residual mass will become detached from the surface of the glass. As soon as the eosin solution has been washed out a weak solution of the methylene blue which is employed for the Romanowsky stain is allowed to run over the film, just as was done for the eosin solution. The blue is permitted to remain only for a few seconds, the time varying inversely with the strength of the solution. Especial care must be taken not to stain the preparation too dark a colour. Next the blue is washed off very gently in its turn and the preparation is complete. We can now dry the stained film and mount in Canada balsam, or examine it directly by placing a drop of cedar oil upon it for the immersion lens; or we can mount it in water, place a cover glass over it, and examine as usual.

The preparation will differ from those in ordinary use in two particulars; first, it will contain no hæmoglobin and will consist only of the transparent stromata of the corpuscles, the leucocytes, blood plates, and parasites; and, secondly, 20 times the amount of blood used in an ordinary preparation will now be found disposed over the area covered by the cover glass. From this it follows that we shall find 20 times as many parasites in each field of the microscope as would be found in an ordinary preparation of the same blood; in other words, we may say that these preparations will have 20 times the diagnostic value of an ordinary preparation. If the Romanowsky stains are efficient the smallest parasites will be seen scattered over the field as small blue rings with a deep crimson dot within or upon the ring, this dot being, of course, the nucleus. If the preparation has not been over-stained the pigment of pigmented parasites will also be visible. I make two preparations—one stained by the method described above and one in which the hæmoglobin is simply washed out with water. In the latter the larger pigmented parasites are very easily visible, owing to their pigment, without any staining at all.

Dr. J. W. W. Stephens, formerly of the Malaria Commission of the Royal Society and now of the Liverpool School of Tropical Medicine, kindly tested these methods for me by making comparative numerical counts of the parasites found respectively in a preparation made in the old way and one made in the new way, both from the same patient at the same time. In an ordinary liquid film of blood he found 15 parasites during five minutes' search. In a dehæmoglobinised thick-film preparation of the same blood stained by the above method he found no less than 76 parasites in one minute, showing that this preparation was 25 times better for diagnostic purposes than the former preparation. In a single field of it he counted no less than 70 parasites. In another case in which only one crescent was found in several ordinary specimens after long search I discovered five in five minutes in a dehæmoglobinised thick-film preparation (unstained).

It is necessary to add that the student should familiarise himself with the appearance of the parasites in this kind of preparation. He had better practise at first with cases containing considerable numbers of organisms.

I have experimented on dehæmoglobinised dilutions of blood, "centrifuged" so as to drive down the residual stromata to the distal end of a capillary tube, but cannot say that the result is better than that given by the very simple method described above.

Skilled students have long been accustomed to search for the larger parasites in the thick edges of liquid films. I have used dehæmoglobinised thick-film preparations for finding crescents since 1895, and Manson employs them for staining flagellate bodies; but I do not think that the facility with which we can detect the smallest parasites in such specimens when properly stained is generally recognised.

Liverpool.

[1] Journal of State Medicine, December, 1902.

VACCINATION RASHES AND COMPLICATIONS.[1]

BY GEORGE PERNET, M.R.C.S. ENG., L.R.C.P. LOND.,
ASSISTANT TO THE SKIN DEPARTMENT, UNIVERSITY COLLEGE HOSPITAL; LATE PATHOLOGIST TO THE HOSPITAL FOR DISEASES OF THE SKIN, BLACKFRIARS, LONDON.

AT a time when we are passing through an epidemic of small-pox, and when large numbers of individuals are being vaccinated and revaccinated, I have thought it would be opportune and interesting to review shortly the subject of vaccination rashes and complications. In dealing with this matter I have no fear of supplying weapons to those who oppose the practice of vaccination. It is the function of a science of observation like medicine to record carefully and impartially all phenomena, normal or otherwise, that we may thereby increase the sum of our knowledge and the usefulness of our art. It is not my purpose in this paper to discuss the value of vaccination—that is a point, I take it, upon which we are all agreed. I would merely remark that the advancement of all knowledge is a process of slow and laborious evolution. I mention this because it is the stereotyped fashion in some quarters to make much of the fact that Jenner expressed the opinion that vaccination absolutely protected against small-pox. We are wiser now and know that vaccination in infancy does not confer complete immunity. It must not be forgotten, however, that small-pox itself does not absolutely protect an individual against a second attack, any more than one attack of herpes zoster excludes the possibility of a second, although in both diseases it is extremely rare for two attacks to occur. Louis XV. of France is said to have had variola at the age of 14 years, but that did not prevent him dying from a second attack at the age of 74.[2] Again, there can be no doubt that cases of syphilitic re-infection have occurred. As far as Jenner is concerned I may be permitted to say that his original contributions are models of lucidity and honesty of purpose and breathe the spirit of Harvey's noble "De Motu Cordis."

It will add, I think, to the clearness of my remarks if I adopt the following division of the subject, suggested originally by Dr. T. Colcott Fox,[3] which is at once simple and natural, according with the manifestations as they present themselves clinically: (1) local abnormalities or irregularities in the development of the vaccine vesicles; (2) incidental exanthematic eruptions; (3) diseases inoculated with vaccinia at the time of the operation; (4) diseases of a septic nature which find a nidus in the wounds subsequently to the operation; and (5) diseases excited in subjects specially predisposed to the same. To which I will add—(6) accidental vaccination; (7) horse-pox or grease and sheep-pox in man; (8) effects of intercurrent diseases on vaccination and *vice versâ*; and (9) vaccination as a mode of treatment.

1. Among the local abnormalities extra vesicles sometimes occur, due probably to the movements of the child and more points being inoculated than was intended. At other times bullæ may form instead of vesicles (vaccinia pemphigoides). In the case of calf lymph this arises as far as I can ascertain from impotent lymph. The bullæ leave no scars. In such an event vaccination should be done over again with good lymph. Jenner referred to this as "spurious" cow-pox and pointed out that it was not protective. He insisted on the necessity of re-inoculation with the proper virus.[4] Again, vesicles may be retarded in their development or may not form at all. In connexion with the late appearance of vesicles curious instances of delay have been recorded: two months (Brierly[5]), one year (George Harley[6]). But the most remarkable was a delay of 14 years, recorded by no less an authority than Sir Thomas Watson. The patient was a girl 14 years of age who had been vaccinated in infancy. In the course of an attack of influenza vesicles developed on the old vaccination areas and, what is more, an elder sister was revaccinated with the lymph of the aforesaid vesicles with positive results.[7] There are also curious instances of revivification of old vaccination areas as a result of revaccination or a subsequent attempt at vaccination where the first had failed. In some cases, instead of drying up in the normal way, the vaccination areas may go on to ulceration with induration of the base and exudation, forming crusts accompanied by axillary adenitis. Such a condition might give rise to the erroneous diagnosis of syphilis. These ulcers have been called chancriform by the French. In one instance, Leloir and Hervieux investigated an epidemic of this kind, 37 out of 38 children being affected. The lymph was of human origin, but no specific symptoms developed.[8] Gangrene has also been observed as a local complication. Diday has recorded the growth of hair as a result of vaccination forming a coronet round the areas.[9]

There has been some discussion in the journals with regard to relapse of vaccination.[10] If by that is meant a formation of typical vesicles going through a normal course and following on a successful vaccination, I have never seen such a thing. But I have seen swelling up of one area (out of three) commencing a few days after the shedding of the scabs after successful vaccination. The purplish red lesion was of the diameter of a sixpence, flatly raised at first but becoming convex. It felt soft in the centre, but on making a puncture no fluid escaped, the contents being jelly-like. Under treatment (europhen and blue wool and collodion) it gradually flattened down leaving (three months later) a slightly raised scar.[11] There was no axillary adenitis. I could only put this complication down to the staphylococcus. The patient had probably inoculated the area with her nails, and this was the more likely as she had a few acne pustules about the chin. In a case under the care of Mr. F. Gower Gardner of Warwick, small red spots appeared after successful revaccination and gradually enlarged to the size of the vaccinated areas.[12] Hypertrophic scars may develop on vaccinated areas.[13] Such a condition is sometimes recorded as keloid, but it is important to bear in mind the differences between true keloid and hypertrophic scar.

2. As to the incidental rashes some occur early. They are usually urticarial or erythematous and are in most cases evanescent, but they may also be vesicular and even bullous. As to the last named in infants and young children, the possibility of impetigo contagiosa bullosa must not be lost sight of, especially when there are only a few bullæ irregularly scattered about one limb or the face. A fairly common condition is the so-called vaccine lichen, consisting of a number of pin-point, red, conical papules, which come out in crops and may affect many parts of the body. According to Dr. H. Radcliffe Crocker, the rash comes out from the fourth to the eighteenth day, usually about the eighth.[14] The character of the eruption is in some cases papulo-vesicular, exceptionally it is pustular. This kind of rash had apparently been noted by Jenner. More rarely still the groups of small vesicles may run together, forming bullæ, but this is a rare occurrence. As a rule it soon subsides but in other cases it may be very persistent. The same may be said of urticaria following vaccination. The fact is that urticaria once started is sometimes difficult to quell. Erythema multiforme may also ensue, no doubt as a result of a toxæmia, the rash appearing as papules about the backs of the hands and face; or it may take the form of an erythema iris[15] or erythema bullosum. These conditions may occur when the vaccination areas are nearly or quite healed. Impetigo contagiosa is not uncommon in neglected children and many parts of the body may be involved by

[1] A paper read before the Medical Society of University College, London, on March 19th, 1902.

[2] Trousseau: Clinique Médicale de l'Hôtel-Dieu, Paris, 1865, second edition, vol. i., p. 34.

[3] Medical Times, 1877, vol. ii., p. 621, cited by Poole, op. cit.

[4] Jenner: On the Varieties and Modifications of the Vaccine Pustules occasioned by a Herpetic State of the Skin. (Originally published in the Medical and Physical Journal, August, 1804, No. 66. Also printed separately, Cheltenham, 1806. This paper is not included in Crookshank's History and Pathology of Vaccination, vol. ii., which contains many interesting reprints of original contributions by Jenner and others.) The above separately published paper is in the British Museum library.

[5] Medical Times, 1862, p. 442. Cited by Poole in Vaccination Eruptions, 1893, p. 24.

[6] Medical Times, 1881, vol. ii., p. 572. Cited by Poole, op. cit.

[7] Vide note 3.

[8] Cited by Delobel and Cozette in Vaccine et Vaccination, p. 67. See also Kaposi-Besnier, second French edition, vol. i., p. 325.

[9] Radcliffe Crocker: Diseases of the Skin, second edition, p. 324.

[10] Brit. Med. Jour., vol. i., 1902, p. 496; also vol. i., 1902, p. 568.

[11] Private Case Book, C. p. 208.

[12] Letter to Author, March 3rd, 1902.

[13] Ehlers: Dansk Dermatologisk Selskabs Forhandlinger, 1899, p. 41. Also Pernet: British Journal of Dermatology, vol. xiv.

[14] Op. cit., supra, p. 323.

[15] Norman Walker: Brit. Med. Jour., vol. i., 1901, p. 1201.

the planting out of micro-organisms by the nails. It was evidently observed by Jenner.[16] Where the lesions are numerous with much crusting it looks very formidable, and it is just such cases that have helped to make people prejudiced against vaccination, although vaccination has had nothing to do with the rash directly. Eczema is a common complaint in babies and is frequently seen in those who have not been vaccinated. But unfortunately with the public all skin eruptions that occur after vaccination are put down to the latter on the fallacious *post hoc propter hoc* principle.

A more important but uncommon eruption is generalised vaccinia, a subject about which there has been much discussion as to whether it arose from auto-inoculation or was conveyed through the blood. When an irritating rash is present on the body at the time of the vaccination auto-inoculation can account for the generalising of the vaccinia. On the other hand there are cases which appear to be in favour of the other view, which has many supporters in France. Jenner[17] records instances where pre-existing pimples and vesicles were converted into vaccinia pocks which kept pace with those on the arms in their progressive changes and further, which is an interesting point, afforded a perfect vaccine virus.[18] Woodville in his account of his experiments records a number of instances in which patients developed a generalised eruption which resembled small-pox. This was quite contrary to the experience of Jenner, who concluded that the rashes described by Woodville had not been produced by the pure, uncontaminated cow-pox virus, but that they might be explained by the fact that Woodville had inoculated a number of his patients with variolous matter on the third or fifth day after the vaccine had been applied and used lymph thus obtained for further cow-pox inoculation. Chauveau has shown that a general vaccine infection was possible by inducing an artificial general horse-pox as it were in the horse by injecting the vaccine virus into the trachea and veins.[19] In connexion with the subject of generalised vaccinia the interesting experiments of Bryce and Hicks may be alluded to. They found, when a second vaccination was performed on a patient a few days after the first inoculation, that, assuming the latter to have been effectual, the second vesicle, in the words of Hicks, made immense strides to overtake the first.[20] Further, that admirable observer, Trousseau, has recorded a case of generalised vaccinia in which 27 vesicles exactly like vaccination vesicles[21] developed about the face, trunk, and limbs on the eleventh day after vaccination in eight places. Trousseau concluded that the rash was the result of auto-inoculation, especially as the child had a fine sweat-rash at the time of the operation. This led Trousseau to go on revaccinating subjects from day to day, from the fourth day onwards after the primary vaccination. He found that after the ninth and sometimes the tenth day the inoculation was unsuccessful and that the earlier the re-inoculation the more typical were the vesicles.[22] With regard to auto-inoculation the eyelids may become affected (vaccinal blepharitis) and lead to what Saemisch has called a vaccine-ophthalmia with keratitis.[23]

Vaccinia gangrenosa is another very unusual condition. Mr. J. Hutchinson[24] has described a case in which on the eighth day after vaccination a papulo-vesicular eruption appeared on the trunk which rapidly assumed a sloughing character. The vaccine vesicles were unaffected. Mr. Hutchinson looked upon it as a true vaccinia passing on to a gangrenous condition and analogous to varicella gangrenosa. Sir William Stokes has recorded a case in which 48 hours after vaccination, purple and black spots appeared on the body, followed by gangrene. The vaccine areas themselves were unaffected, and other children vaccinated with lymph from the same source exhibited no rash of any kind.[25] This appears to have been a purpuric condition originally, but a "pemphigoid" rash is mentioned in connexion with the case, so that it may have been a hæmorrhagic bullous eruption. I may add that the bacillus pyocyaneus has been isolated in dermatitis gangrenosa infantum, and moreover bullous eruptions have been observed in infections by that micro-organism. Bullous eruptions and a somewhat rare condition, dermatitis herpetiformis, have followed vaccination.

I should like to say in passing that the inoculation of small-pox in the human subject is now a misdemeanour, although at one time in this country so great were the ravages of small-pox that it was considered an improvement to go through an artificially induced variola.

Morbilliform and scarlatiniform rashes also sometimes occur, but they give no trouble. Purpura is an extremely unusual eruption. It may appear as minute punctiform hæmorrhages or the condition may be much more serious with extensive hæmorrhages into the skin, accompanied by febrile symptoms, epistaxis, hæmaturia, together with hæmorrhages into the vaccination vesicles, indicating profound changes in the blood or perhaps, in some cases, depending on hæmophilia.[26]

I have seen the itch ascribed to vaccination as the rash appeared soon after the latter, but the discovery of the acarus exposed the fallacious reasoning of the patient.

3. I now come to diseases inoculated with the vaccine virus at the time of the operation—a very important matter indeed and one which has led to no end of controversial writing on the part of opponents of vaccination. I propose to deal in this part of my paper with syphilis, tuberculosis, and leprosy. As to the first, there is no doubt as to syphilis having been communicated to healthy children and adults by means of vaccine lymph derived from congenitally syphilitic infants. Instances of this unfortunate accidental syphilisation were faithfully recorded by medical men immediately they recognised them. I need hardly point out that cases of the accidental mediate inoculation of syphilis occur from time to time quite apart from vaccination. When the possibility of such an accident in vaccination became known the medical profession was on its guard. Dr. Radcliffe Crocker states that at the East London Hospital for Children, where the patients were the poorest of the poor, over 20,000 cases passed through his hands and he never saw a case of vaccinal syphilis, nor did any of his colleagues there, or he would certainly have heard of it. Dr. Colcott Fox has had a similar negative experience at another children's hospital.[27] Now that calf lymph is in general use, inoculation of syphilis *vid* the lymph is a thing of the past. It must not be forgotten, however, that in a certain stage of syphilis the blood of the patient is virulent and that an unclean lancet charged with such blood may be a source of danger in vaccination. Jullien has recorded a recent instructive instance of two surgeons contracting syphilis through wounds of the fingers whilst operating on a syphilitic woman just before the appearance of her secondary rash.[28]

With regard to tuberculosis a number of investigators have looked in vain for the tubercle bacillus in the vaccine vesicles of phthisical patients and animal inoculation experiments with lymph from that source have been negative. Now that human lymph has been given up the possibility of tuberculosis being conveyed from calves must be examined. In the first place, tuberculosis in calves is very rare, but nevertheless the plan adopted in Belgium of making a necropsy of the animal immediately after the lymph has been collected is a sound one.[29] The selection of vaccinifer calves should also be carefully made and animals having any sign of disease should be rejected. Chauveau and Josserand failed to produce tuberculosis in guinea-pigs with lymph obtained from a tuberculous cow.[30] Another element in the discussion of this subject is the opinion expressed by Professor Koch at the British Congress on Tuberculosis in 1901 that bovine tuberculosis was not communicable to man. That inoculation of the skin by the

[16] Vide Note 4. [17] Ibid.

[18] Reprint of W. Woodville's Report on a Series of Inoculations, &c., in Crookshank, op. cit., supra (note 4).

[19] Chauveau, cited in Vaccine et Vaccination, op. cit., supra (note 8), p. 56.

[20] Thomas Watson's Principles and Practice of Physic, 1848, vol. ii., p. 793. As to Hicks, see also Jenner's original papers in Crookshank, op. cit., supra.

[21] It should be noted that the earlier writers on the subject used the word "pustule" in the sense of vesicle. Jenner himself admitted in op. cit., supra (note 4) (foot-note p. 6) that vesicle or pock would be a better term to employ than pustule.

[22] Loc. cit., supra (note 2), p. 64.

[23] Rille: Encyklopädie der Haut- und Geschlechts-Krankheiten, 1900, p. 250.

[24] THE LANCET, Dec. 13th, 1879, p. 873, cited by Poole, op. cit., p. 113.

[25] Medical Times, 1880, vol. i., p. 586, cited by Poole, op. cit., p. 114.

[26] Vaccine et Vaccination, op. cit., supra (note 8), p. 59.

[27] Op. cit., supra (note 9), foot-note, p. 325.

[28] Neumann's Festschrift, 1900. See also Brit. Med. Jour., vol. ii., 1901, p. 827.

[29] Degive of Brussels cited in Vaccine et Vaccination, vide supra (note 8), p. 155.

[30] Op. cit. (note 8), p. 154.

bacillus tuberculosis from phthisical sputum, &c., may occur is an ascertained fact, but it is not an easy thing to produce experimentally. As far as vaccination is concerned it is very difficult, as Dr. Colcott Fox rightly points out,[31] to exclude the possibility of pre-existing bacilli having found a suitable soil in the wounded tissue or of a secondary infection from the outside.

Vaccination has also been accused of leading to an increase of leprosy. Now, although leprosy is undoubtedly a contagious disorder, all attempts to inoculate the disease in sound individuals have failed. Danielssen and others have tried it on themselves and on various persons who have voluntarily submitted to the test. The case of the Hawaiian criminal Keanu, inoculated as an alternative to death, is not decisive, as leprosy occurred in some of his relatives, and the disease being, moreover, very prevalent in the Sandwich Islands, he may have contracted it in another way. The long latency of the complaint is a factor which makes it difficult to arrive at a positive conclusion in countries where the disease is endemic and in the case of individuals who have lived in those countries. The source of error afore mentioned is a valid objection to the very few published cases of so-called vaccinal leprosy. The careful inquiries of the Leprosy Commission in India on this point led the commissioners to report that the practical danger of leprosy being diffused in this manner was minimal, even supposing the disease to be highly contagious.[32] Arning and Auché and Carrière have found the bacillus in the vaccine vesicles of lepers, so that the possibility of transmission in arm-to-arm vaccination in this way cannot be denied. But Armauer Hansen, who originally discovered the bacillus leprae and whose authority on any subject connected with leprosy is acknowledged, cannot believe that such transmission could have been frequent as some writers have contended. Further, Hansen distinctly states that in Norway leprosy has steadily diminished during all those years in which vaccination has been compulsory. In 1891 he put the question to all medical men in Norway who had anything to do with leprosy, and not a single one had ever observed such an occurrence.[33] As the leprosy bacillus has not yet been either cultivated outside the human body or successfully transmitted to animals calf lymph cannot be accused of being a cause of leprosy.

4. I have next to consider diseases of a septic nature which find a nidus in the wounds subsequently to the operation. This portion of my subject and the one just dealt with overlap to some extent. Given strict cleanliness and carefully prepared lymph nothing but the vaccine virus should be inoculated at the time of the operation. Erysipelas is a rare complication. It varies in degree and may remain more or less localised to the neighbourhood of the vaccinated areas. On the other hand, it may spread extensively and sometimes prove fatal. Jordan[34] has called attention to the fact that erysipelas may result not only as a result of streptococcal, but also of staphylococcal, infection. Erysipelas may develop in a vaccinated child as a result of erysipelas in the mother or in a neighbour coming in contact with either the child or its parents. Furunculosis, cellulitis, and even septicæmia and pyæmia have been observed. Impetigo contagiosa and gangrene have already been alluded to. A very rare complication is tetanus. Dr. W. Findlay and Dr. J. W. Findlay[35] have recorded a case of this kind following vaccination on the leg occurring in a woman, aged 21 years. They have further been able to collect ten other cases. Of these, Toms's case followed calf-lymph vaccination on the arm, and another is recorded in the report of the Royal Commission on Vaccination in which human lymph was used. This is an interesting point. Tetanus is caused by a bacillus found in the earth and *a priori* might be expected to be common in calf lymph owing to accidental contamination. But tetanus as a complication of wounds is an extremely rare condition, in this country at least, and Dr. G. Vivian Poore,[36] who has made inquiries, found that in the market gardens of the Thames Valley it was the rarest of diseases. This agrees with the rare occurrence of tetanus among agricultural labourers.

I may here refer to vaccination on the leg, demanded by some ladies. I have vaccinated very few in this situation, but in one case the patient, instead of keeping quiet, took off the protective dressing, put on coloured stockings in direct contact with the unhealed vaccine areas, and went to a ball. The result was a great deal of local inflammation, with the formation of a large irregular bleb full of sero-pus. The patient was quite sure that it was the vaccination.[37]

5. An interesting part of the subject under review is the fact that diseases may be excited in individuals specially predisposed to the same. Here, again, the *post hoc* fallacy crops up. Nevertheless, vaccination appears to have started psoriasis where there was a predisposition, but that it was actually the cause is another story. Occasionally, one or more psoriasis lesions may precede the vaccination and sometimes, too, rashes have broken out when vaccination has been postponed which would inevitably have been ascribed to the latter had it been carried out. In a similar way an eczema may be started by vaccination. In two recent cases vaccination led to the recurrence of a cured eczema. In infants vaccinated very early in life, before congenital syphilis has developed, the specific symptoms would appear to the lay mind to be the result of the inoculation with lymph. It must be remembered, too, that the subjects of hereditary lues do not always present the "old man" appearance but may at first look healthy enough. I have lately seen pityriasis rosea occur in a recently vaccinated patient sent to me by Dr. Percy J. Edmunds, but there was no reason whatever to think that there was any connexion between the two conditions.[38] The sequence was, no doubt, quite accidental.

6. There are numerous instances of accidental vaccination scattered up and down in medical literature. I have seen it on the face and wrist. Medical men have inoculated themselves on the lip through the small wound caused by the broken end of a capillary tube whilst blowing out the lymph. When it occurs about the mouth or cheeks it gives rise to much discomfort, as may well be imagined, especially as regards opening the mouth. I have seen an interesting case in a woman nursing her vaccinated child, the accidental vaccination occurring on the cheek as the result of a scratched pimple. She had never been vaccinated, as her parents objected to the practice.[39] Dr. A. MacLennan[40] has recorded the case of a man in whom the chin was inoculated He thought that he got it off a towel used by other members of the house, five of whom were vaccinated. The patient himself had declined to be vaccinated as he did not think it necessary. Accidental vaccination in the great majority of cases occurs as a single lesion, giving rise at a certain stage to much surrounding redness, together with swelling and tenderness of the corresponding lymphatic glands. But Dr. Arthur J. Hall[41] of Sheffield has published a case in which there were 11 lesions about the dorsa of the hands. The patient was a domestic servant who had never been vaccinated and who suffered severely at the time from chapped hands. The vaccinia was contracted from a recently vaccinated baby she had nursed. When the lesions are single the possibility of an extra-genital primary syphilitic sore may arise in the observer's mind, especially in certain stages of such accidental vaccination. The scar left by an accidental inoculation in the lip, for instance, may also be taken for the remains of an old primary syphilitic sore, especially if the patient be the subject of syphilis.

7. Much of what I have just said applies to the accidental inoculation of horse-pox or grease. Men looking after horses with greasy heels may contract the disease about the hands or forearms and also on the face. This fact was well known to Jenner who held the opinion that such individuals, employed in milking, transmitted the disease to cows, giving

---

31 Little: Vaccinal Lupus, British Journal of Dermatology, vol. xiii., 1901, p. 93. This paper contains a review of the subject. For other interesting facts see also Vaccine et Vaccination, op. cit., supra (note 8).

32 Report of the Leprosy Commission in India, 1890-91, Calcutta, 1893, p. 269.

33 Hansen and Looft's Leprosy, translated by Norman Walker, 1895, p. 103.

34 Jordan on the Etiology of Erysipelas and its Relation to Pyogenic Infections, in Münchener Medicinische Wochenschrift, No. 35, 1901, p. 1371. See also abstract in British Journal of Dermatology, January, 1902, p. 78.

35 W. Findlay and J. W. Findlay: THE LANCET, Feb. 22nd, 1902, p. 506

36 G. V. Poore's Milroy Lectures, THE LANCET, Feb. 25th (p. 491 and March 4th (p. 563) and 11th (p. 678), 1899. Also in the Milroy Lectures and Other Essays, 1902, p. 6. Dr. F. S. Palmer tells me he never saw a case during the 25 years that he practised at East Sheen.

37 Private case-book, A, p. 254.

38 Private case-book, C, p. 271.

39 I am indebted to Dr. Radcliffe Crocker for permission to make use of this case which was seen by me whilst in charge of his hospital practice.

40 MacLennan: Brit. Med. Jour., June 8th, 1901.

41 A. J. Hall: British Journal of Dermatology, vol. xii., 1900, p. 55.

rise to cow-pox, this being further communicated to other milkers who were thereby rendered immune to small-pox. The lesions occasioned by grease in man have sufficient resemblance to the cow-pox to make one think of the possibility of such an infection, especially in grooms, farriers, horse-keepers, and so forth. Bosc and Bourquier[42] have recorded the case of a woman who according to them accidentally contracted sheep-pox (variolæ ovinæ) and developed variola-like lesions about the hands and forearms.

8. As to the influence of intercurrent diseases on vaccination and *vice versâ* Jenner[43] mentions the case of a boy who the day preceding the insertion of the cow-pox had sickened with the measles. Both diseases went through their usual phases uninfluenced the one by the other except that the vaccine vesicles enlarged without any surrounding efflorescence, which appeared later, having suffered a temporary suspension on account of the measles. Jenner[44] had also noticed that papular eruptions which had long been troublesome were speedily swept away as a result of vaccination. A similar effect is noted by Dr. Radcliffe Crocker[45] as regards eczema, which may sometimes be cured by vaccination; he further observes that eczematous children, otherwise in good health, may often be vaccinated without any aggravation of the eczema. This is a point of some practical importance. Where there is danger from small-pox, vaccination should be done in such cases on sound skin, the inoculated areas being carefully protected to avoid a transference of inoculable material to other parts of the child's body.

Jenner saw scarlet fever develop on the eighth day after vaccination, but the only deviation in the respective evolution of the two conditions was just the same as in the case of measles which I have already mentioned—viz., the areola round the vaccine vesicle was delayed, but it appeared as soon as the patient got better of the scarlet fever. It was otherwise, however, with the patient's sister. Her scarlet fever rash and symptoms were interrupted in their development and were delayed until the vaccine vesicle began to subside and to dry up, when her throat became sore and the scarlet fever rash spread all over her.[46] On the other hand, Dr. Radcliffe Crocker[47] mentions a case in which the child was unwittingly vaccinated during the incubation of scarlet fever, which developed before the eighth day of vaccination. All four vaccination areas coalesced into a slough of the size of a crown piece; the child recovered. Trousseau[48] found that measles and scarlet fever arrested the vaccinia in its development, the latter resuming its course when the acute exanthem had subsided. The French observer further noted that variola and vaccinia developed simultaneously without influencing one another, whereas other observers contended that variola was favourably influenced by vaccination performed during the incubation period of the former. The fact is that it is the right thing to vaccinate as quickly as possible any unprotected individual who has been exposed to small-pox.

As to syphilis, I have not seen any complications of either the syphilis or the vaccination in the later stages of a secondary syphilide. Balzer,[49] however, has recorded confluent sloughing of the vaccinated areas. Such a complication might depend on various factors. And it would be interesting to know if vaccination is influenced by chronic poisoning by alcohol, lead, and so forth, or by drugs. If any readers know of any such facts I shall be glad of information on the point. Trousseau[50] remarks that congenital syphilis either in the latent or florid state does not influence vaccination.

Dr. E. W. Goodall and Dr. C. Basan[51] record hæmorrhage into and around the vaccine vesicles in a girl, 11 years of age, who had been vaccinated a few days before an attack of diphtheria. She exhibited at the same time purpuric lesions about the extremities and on the trunk with bleeding from the nose and mouth. About 11 days before the purpura she had been injected with 6000 units of antitoxin; this was followed by some urticaria which rapidly disappeared. Dr. Goodall and Dr. Basan exclude the antitoxin as the cause of the hæmorrhages and rightly, I think, attribute it to the diphtheria poison itself. Trousseau[52] long ago pointed out that petechiæ, epistaxis, and ecchymoses occurred in diphtheria. I have not seen vaccination influence an existing widespread psoriasis one way or the other, but psoriasis papules may appear on recently or old vaccinated areas occasionally. Nor have I seen bad effects from vaccination in obstinate urticaria, although *a priori* one would expect an aggravation of the latter condition.

9. These considerations lead me to vaccination as a mode of treatment. It is well known that nævi can sometimes be cured by vaccinating upon them. Care must be taken to scarify such very lightly. Jasiewicz has gone extensively into the prophylactic and curative action of vaccinia as regards a variety of infectious diseases.[53] This aspect of the matter has been dealt with to some extent in my previous remarks. But here Jasiewicz recommends the vaccine virus as a therapeutic agent on the principle that one toxin may neutralise or counteract another. It may be pointed out, however, that by adding its own effects to those of the toxin already present in the body it may make matters worse. That one disease may influence another beneficially is illustrated by what has been observed with regard to erysipelas, a spontaneous attack of which on the face, for instance, may act favourably on a lupus vulgaris. This is the idea underlying the use of Coley's fluid.

It would appear that vaccination has benefited whooping-cough, a fact which Delobel and Cozette state was known to Jenner, but I have not come across the point in the papers of Jenner I have perused.[54] Indeed, the French writers whom I have just mentioned say that they have personally observed whooping-cough to be cured by vaccination.[55] Influenza and pneumonia have also been improved, it is said. It has been observed by Beaven Rake that leprosy was arrested in its development by vaccination.[56] Of course, in leprosy it is sometimes difficult to tell what is due to treatment, as spontaneous involution of lesions may occur, and amelioration may take place for a time without any active treatment at all. As to phthisis, Tyndal has seen the febrile and other symptoms improve after several subcutaneous injections of two drops of calf lymph in 15 drops of distilled water and one gramme of glycerine.[57] Winogradoff, having noticed that an intercurrent attack of variola improved pulmonary tuberculosis, is said to have also obtained good results from systematic subcutaneous injections of calf lymph in that disease.[58]

This concludes my survey of a subject of great interest. I have only taken a bird's-eye view of it, for exhaustively dealt with it might be almost indefinitely expanded, the literature connected with it being enormous. It now remains for me to summarise. The upshot of my remarks is the necessity for scrupulous cleanliness. The operation is a trivial one but any interference with the continuity of the skin, however small, opens the door to infection. We can always learn something from opponents and rivals—that is, if we are not above being taught. The criticism of those who are against vaccination has directed attention to the necessity of all-round cleanliness in vaccination. The next point of importance is the calf lymph. It should be carefully prepared on the lines which experimental investigation has proved to be the right ones, absolute cleanliness being an essential feature. After the operation the vaccinated areas should be properly protected from the patient's nails and so forth. In this way preventable rashes and complications will be prevented. On the other hand, there are certain factors which are not under our control, such as idiosyncrasy, renal inadequacy, cardiac insufficiency, and so forth; but the eruptions which arise in these cases are usually of an evanescent and trivial nature. When several patients are vaccinated at the same time with the same lymph, these individual factors are brought out: one patient will have a rash, the others exhibiting nothing of the kind.

The employment of the "*lancettes plumes*" on a metallic

---

[42] Bosc and Bourquier: La Presse Médicale, No. 73 1897, p. 138. Also abstract in British Journal of Dermatology, vol. ix., 1897 p. 459.
[43] Jenner: Further Observations on the Variolæ Vaccinæ, 1799. See Crookshank, loc. cit., supra (note 4), p. 188.
[44] Jenner: On the Varieties, &c. 1804 (*vide* note 4).
[45] Radcliffe Crocker: Op. cit. (note 9), p. 324.
[46] Jenner: A Continuation of Facts and Observations, &c., 1801; vide Crookshank, op. cit., supra (note 4), p. 261.
[47] Radcliffe Crocker: Op. cit. (note 9), p. 325.
[48] Trousseau: Op. cit., pp. 65 and 66.
[49] Balzer: Cited by Radcliffe Crocker op. cit., supra (note 9), p. 325.
[50] Trousseau: Op. cit., supra (note 2), p. 65.
[51] Goodall and Basan: THE LANCET, Nov. 30th, 1901, p. 1492.
[52] Trousseau: Op. cit. (note 2), pp. 363 et seq.
[53] Jasiewicz: Bulletins et Mémoires de la Société de Médecine Pratique, 1890, p. 453. Cited by Delobel and Cozette in Vaccine et Vaccination, op. cit., supra (note 8), p. 116.
[54] Jenner: cited by Delobel and Cozette, vide op. cit., supra (note 53), p. 118.
[55] Op. cit., supra (note 53), p. 118.
[56] Rake: Cited in op. cit. (note 53), p. 119.
[57] Op. cit. (note 53), p. 119.
[58] Op. cit. (note 53), p. 120.

holder, a plan originally recommended by Mareschal, a French army surgeon (*vaccinostyle individuel*), will be found useful. After vaccinating a patient the pen is thrown away and a fresh one used for the next case.

Upper Gloucester-place, N.W.

A SECOND CASE OF SUCCESSFUL OPERATION FOR PERFORATION IN TYPHOID FEVER.[1]

BY ANTHONY A. BOWLBY, C.M.G., F.R.C.S. ENG.,
LECTURER ON SURGERY AT ST. BARTHOLOMEW'S HOSPITAL.

THE patient was a boy, aged 10 years, who was admitted into St. Bartholomew's Hospital under the care of Dr. Norman Moore on Sept. 1st, 1900. He was in the third day of an attack of typhoid fever and beyond the fact that the case was severe and prolonged it called for no special comment except that after the temperature had come down to normal on the thirteenth day he suffered from a severe relapse on the twenty-first day and had again a very high temperature, reaching 105·4° F. on one occasion. The date of the relapse was Sept. 19th. On Oct. 1st the temperature was still above normal (101°) and tympanites, which had been present throughout, was still well marked. There was also some crepitation at the bases of the lungs. On the 2nd, after a slight shivering fit, the patient became blanched and cold, the temperature sinking to 97·6°, but there was no subsequent evidence of hæmorrhage or pain. On the 3rd he seemed to be better but the temperature was still 101°. The abdomen was less distended and the bowels acted without enemata. On the 4th the temperature was normal but the abdomen was again distended. The pulse was 96. A little before 3 P.M. he complained of some difficulty in micturition and while passing urine he was seized with severe pain in the abdomen. The temperature half an hour earlier had been 102·6° but after the attack of pain the patient sweated profusely and it dropped to 98°. For the next half hour the boy was screaming with pain and was exceedingly restless. He then became quieter and collapsed, with sunken eyes, a cold sweat, and shivering. The pulse had gone up meantime to 140. I saw him at 4.30 P.M. with Dr. Norman Moore and found his general condition to be as above described. The abdominal wall was hard and fixed during respiration and I agreed with Dr. Norman Moore that perforation had almost certainly taken place and quite concurred in his proposal that an operation should be undertaken at once. At 5 P.M. therefore, two hours after the symptoms of perforation, the abdomen was opened in the middle line and at once free gas was found in the peritoneum. A considerable quantity of almost clear fluid welled up but there was no large collection of fæcal matter. The intestines were so much distended that several coils had to be allowed to extrude and they were kept wrapped in hot towels. Many areas of inflamed peritoneum indicated the affected Peyer's glands. I then sought for the cæcum and after finding it I rapidly passed the small intestine through my hands till I found a perforation situated less than two feet from the ileo-cæcal valve. The bowel was not adherent or otherwise altered nor could any induration be felt in its walls, but the peritoneum corresponding to the shape of a Peyer's patch was very red and injected. The opening in the intestine was quite small, being not much larger than a pin's head. I wiped the bowel clean and then closed the opening by five Lembert's sutures of fine silk. The greater part of the incision was now closed and a glass drainage-tube was placed in its lower end. Owing to there being no complications the operation was completed in about 20 minutes and at the end of it the patient's general condition was none the worse for the handling and exposure of the bowel. The peritoneum was not douched but the intestines were carefully wiped clean and all fluid was completely mopped up from the pelvis and elsewhere with sponges. For several days the boy remained very ill and in the early morning after the operation the pulse was still 150, the temperature being 100·4°. There had been no sickness and flatus was passed. The patient was fed by nutrient enemata and only a little water or ice was given by the mouth. The abdomen remained distended. After this time there was steady and rapid improvement except for some sickness on the 7th and a troublesome cough, so that by the 10th (six days after the operation) the boy seemed to be convalescent. On that day, however, he had a slight epileptiform attack and in the evening a more severe series of fits, necessitating the administration of chloroform. This threw him back and weakened him but he again rallied and in spite of a return of severe convulsions on the 20th he ultimately recovered. The tympanitic distension of the abdomen which had been so marked throughout continued till the end of his illness. I saw the boy some months later and found him to be in excellent health.

I have already recorded a similar case of operation for perforation of typhoid ulcer in vol. lxxx. of the Transactions of the Royal Medical and Chirurgical Society (in conjunction with Sir Lauder Brunton) and in that case also, which had a similar satisfactory ending, the patient was operated upon late in an attack of typhoid fever, for he was in the sixth week of the illness and was at the time suffering from a relapse. In that case there were much induration of the perforated Peyer's patch and some consequent difficulty in suturing the aperture, but in all other respects the cases had much in common except that at the time of the operation the boy whose case I now record was much more ill than was the first patient and that there was greater distension of the abdomen.

The two cases represent the only patients I have operated upon and there can be no doubt that they represent two lives saved. On the other hand, however, I do not regard them as at all typical cases of typhoid perforation but rather as typical of a special class in which perforation occurs after the fever is practically over and in which the general condition of the patient is otherwise relatively good. In such patients as these the symptoms of perforation are generally well marked and the diagnosis is readily arrived at. But in very many other cases the reverse is true, for it not infrequently happens that the perforation occurs when the fever is yet high in patients who are nearly or quite unconscious and in whom there is no perception or expression of pain and who may have distended and tympanitic abdomens before perforation occurs. Many such patients are already at death's door and in not a few of such cases in addition to the perforation there are numerous other areas where the intestine is so rotten that its giving way is only a question of time. It is not to be supposed that even if an ulcerated bowel is sutured many such patients can recover and in some of them at least the operation of suture may be practically impossible. I saw at least one such case in South Africa with Dr. H. H. Tooth in which the patient was quite unconscious and manifestly dying. Dr. Tooth suspected that there might be a perforation but as the symptoms were not clear no operation was undertaken and the same day the man died. A post-mortem examination showed that the intestine was so matted and adherent to the peritoneum and mesentery that even after death it could with difficulty be unravelled and though there was a perforation I do not think that it would have been discovered by operation, even if the patient's condition had permitted one to be performed.

As surgeons we are of course entirely dependent on physicians for the opportunity of operating on cases of perforation in typhoid fever and it is evident that it is for us to convince them that operations may save life. The case which I have recorded is one in which the saving of life was primarily due to Dr. Norman Moore and in recording it I do not wish to suggest that all cases are likely to be so successful. On the other hand, I do think that in the present position of intestinal surgery there is good reason to advocate that the chance given by operation should not be withheld in any case of perforation, and I would suggest that in all such cases where perforation is suspected a surgeon should be called in as promptly as possible.

Manchester-square, W.

[1] A paper read at a meeting of the Clinical Society of London on Dec. 12th, 1902.

WESTON-SUPER-MARE ISOLATION HOSPITAL.—On Dec. 17th an additional ward, which has been recently added to the Weston-super-Mare Isolation Hospital, was formally opened by the chairman of the sanitary committee. The new ward will provide accommodation for eight patients and has been erected at a cost of £300. The hospital now contains 28 beds.

A NEW DIFFERENTIAL STAIN FOR THE KLEBS-LÖFFLER BACILLUS OF DIPHTHERIA.

BY J. WICLIFFE PECK, F.C.S.

AFTER using the method suggested by Neisser for staining the Klebs-Löffler bacillus for some years, bacteriologists have to agree that it has a very limited use indeed. In the examination of direct swabbings it is reliable in 60 per cent. of the cases only and if the culture on blood serum or Kanthack's serum agar is more than 24 hours old it is not reliable.

After making a number of experiments to find, if possible, a stain that will be of more extended use I have found one that partly satisfies the need. The stain which I have used is Löffler's methylene blue and as a counter-stain Neisser's brown. The film is spread in the usual way, fixed in the flame, stained with Löffler's methylene blue for from three to four seconds, washed quickly, then counter-stained with Vesuvian 0·2 per cent. aqueous solution for 30 seconds, again washed quickly, dried, and mounted in Canada balsam. The film may be dried on the slide and stained without the use of a cover-slip. It is convenient to have two very wide-mouthed, stoppered bottles of the stains, and the films simply dipped in for the proper time. This method gives a better result in all instances in which Neisser's acetic acid stain has been used, and it has this great advantage that it is reliable for staining the Klebs-Löffler bacillus from a culture on blood serum several days old. I kept one culture at 35·5° C. during a week and another at 20° C. after incubating at 35·5° C. for 24 hours, and while the former was very much involuted after five days the other was not so much so after eight days. And I found that the new method, which might be called the "Löffler-Neisser method," was quite reliable for staining the former up to four days, while a good differential staining was obtained with the latter on the eighth day.

For staining direct swabbings the Löffler-Neisser stain is quite reliable. In every instance which I tried of swabbings several days old I found the new method stained them well, while Neisser's method stained them very indistinctly or only indistinctly stained two or three organisms. A dry four days' old swabbing was moistened with broth and two cover-slip specimens were made. One, stained by the Löffler-Neisser method, showed a large number of the Klebs-Löffler bacilli clearly defined. The other, stained by Neisser's method (30 seconds each), showed only three organisms resembling the Klebs-Löffler bacillus and these were indistinct. On cultivation the Klebs-Löffler bacilli were in almost pure culture. This stain is always ready at hand and is a very rapid method. It is also interesting in being an alkaline stain, while Neisser's is very strongly acid. The common mouth organisms do not stain in the three seconds that are required, and neither the bacillus of Hofman nor bacillus coryzæ segmentosus stain by this method. The bacillus pseudo-diphtheriæ, which is non-pathogenic, occasionally stains by Neisser's and the Löffler-Neisser methods, but after a number of attempts I only once succeeded in staining the (20 hours' old) organism by these methods. After three days I could not get it to stain by either method. The very luxurious growth, fine orange yellow colour, and morphological appearance with ordinary blue staining preclude the possibility of mistaking this organism. Löffler's blood serum gives better results than serum agar and, contrary to what I expected, the Klebs-Löffler bacillus in pure culture grows better on a seven weeks' old blood serum than on one 10 days old, while the difference in the staining properties is not worth considering. Agar being an unfavourable medium and producing involution forms so quickly is unsuitable for cultivating the Klebs-Löffler bacillus and films from this medium refuse to be stained by either method. One pure culture in milk two days old and another four days old stained well with the Löffler-Neisser method but gave a negative result with that of Neisser. The organisms are found to be clumped together in small masses, so that in milk examination the diagnosis would be difficult.

The results mentioned above are the outcome of very numerous experiments with a large number of cultivations from throats and swabbings.

I have to express my indebtedness to Dr. F. A. Bainbridge, of the Hospital for Sick Children, Great Ormond-street, and of St. Bartholomew's Hospital, for giving me many of the cultures I have used and for his kind advice.

Hospital for Sick Children, Great Ormond-street, W.C.

THE DIFFUSIBILITY OF SCARLET FEVER VIRUS.

BY JOHN SUTHERLAND, M.B., C.M., B.Sc. EDIN.

IN conducting an inquiry lately in an epidemic of scarlet fever directed mainly towards the question of home isolation several noteworthy features relating to the natural history of that disease were disclosed, among which one in particular struck me as important and which, so far as I am aware, has not hitherto been remarked upon—that is, the wonderfully low diffusibility of the scarlet fever virus. In the literature of scarlet fever it is generally assumed that this exanthem is carried and propagated by various media—e.g., fomites, visitors, &c.—and illustrative examples are given wherein healthy persons coming from a scarlet fever case or from an infected dwelling are said to have carried the infection and communicated the disease to other persons living many miles distant from the supposed source. This means, in other words, that particles containing the virus in some way or other adhered to those persons or to their apparel and retained vitality until such time as the virus got implanted in the new victim. The virus cannot certainly retain its vitality indefinitely or very few houses in England would be free from it. Scarlet fever is intensely contagious, and throughout the whole course of the epidemic I have seen only one instance of a susceptible child escaping this disease after contact with a desquamating case. The diffusibility, to some extent, at any rate, must depend on how long the virus can survive and retain its "striking" power after its dissociation from a desquamating subject exposed at the same time to ordinary conditions, meteorological and otherwise. If it be true that healthy persons can convey the infection in the way described, then we must assume that either the virus has a separate existence or that it in the form of spores or otherwise remains effective for an as yet unknown period after dissociation from its host.

Again, the question of whether healthy persons do actually carry the infection from one to another is very important in another way, for founded on the assumption that such is the case are many restrictions on labour which bear hardly on the poorer classes. In this inquiry 224 cases of scarlet fever occurring in 132 households came under review and the following is a short summary of the result. The plan of isolation consisted mainly in confining the patient to a room until such time as he or she was released by order of the medical attendant and success or failure depended on whether the other susceptible children of the house escaped or not. "Susceptible children" means those unprotected by a previous attack of scarlet fever.

Division I.—Ten families either could not or would not keep the infected children apart from the others, so second cases occurred in every one of these homes after intervals of 2, 3, 6, 7, 8, 9, 11, 12, and 14 days respectively, reckoning from the dates on which each of the first cases was seen professionally.

Division II.—In 40 households the patients were either the only children of the house or the only susceptible ones. This group, therefore, affords us no data either one way or another.

Division III.—In 34 families a very well-intentioned attempt at isolation was begun and maintained for periods ranging between 21 and 43 days. The respective intervals in this division between the first and second cases were 40, 43, 34, 36, 33, 30, 31, 27, 29, 24, 23, 19, &c., days. Now in each of those 34 families a dereliction of duty was admitted. The second case had been in contact with the isolated child two days before he sickened. Sometimes the children got together by stealth, others came in contact through the connivance of their parents, but the result was invariably the same—a fresh victim in two days.

Division IV.—In 48 families this home isolation proved pre-eminently successful. Susceptible children lived in each of these 48 houses and they all escaped.

Let us now consider what these facts disclose concerning the diffusibility of the scarlet fever virus. First let us take the 48 families wherein successful home isolation was conducted. The patients were all children of working men. The houses consisted of a room, kitchen, and scullery on the ground floor, with three bedrooms upstairs. In each house a room was prepared for the patient, generally upstairs; occasionally, however, the front room on the ground floor was cleared for his reception. This latter, it may be stated, is separated from the kitchen or living room by a short passage about four feet square and one or two doors. Here, then, is a scarlet fever case inhabiting during the whole course of his illness and convalescence one of the apartments of a house (of dimensions described above), while throughout the whole of the same period susceptible children occupy with impunity the other rooms of the same dwelling. Again, let it be noted that in all those households the mother was necessarily obliged to act the double part of nurse and housewife. During those six or seven weeks she had to nurse, to feed, to wash, and to attend to all the wants and requirements of the sick child and meanwhile she was at the same time cook, washerwoman, and general handmaid to the healthy members of the household. Once more, during all those weeks she is passing to and fro between the infected and non-infected apartments as frequently and freely as her multifarious and combined duties demand. In each and all of those 48 houses this went on with perfect safety; there were susceptible children in every one of those houses. Nevertheless, throughout all those weeks, although there were daily and even hourly opportunities presented for the conveyance of infection through the medium of the mother, no transmission occurred.

As already mentioned, in each of the 34 houses of Division III., contact admittedly in each instance first took place a day or two before the occurrence of the second case—an admission strikingly confirmed by the great differences seen in the length of the intervals separating the occurrences in Division III. when compared with those of Division I. It is very far from my desire or wish to appear dogmatic in any way, still I think a reasonable inference from the foregoing observations would favour the view that a healthy nurse or attendant on a scarlet fever case does not in ordinary circumstances carry the infection of scarlet fever, even from one room to another.

For several years now I have been earnestly seeking after a genuine instance of a healthy person playing the part of a medium in the transmission of scarlet fever. I have tacitly encouraged mothers to visit their neighbours' sick children, knowing full well that in this small community where everybody is pretty well known to me I should very quickly discover if any of the visitors conveyed the disease to their own homes. I have seized every opportunity to instigate exposure on these lines in a great many other ways, with so far always the same negative results. For the sake of brevity fomites have not been touched upon; besides the mechanic does not generally carry such encumbrances to his workshop or the factory girl to her mill, and in any case should danger eventually be proved to lurk in fomites some simple regulations could surely be devised to dispose of them and to render them innocuous.

To sum up, in this investigation we have had before us, say, Division III. 34 households, and Division IV. 48 households. To put it in other words, we have had under observation 82 different sets of circumstances, each, so far as our present knowledge goes, in every way calculated to promote the transmission of infection in the manner specified, yet no transmission occurs. It may be the weight of the scale containing the virus; it may be the drying or the rapid devitalisation of the virus; or it may be some cause or condition as yet unsuspected which prevents the infection being carried by an attendant or nurse even from one room to another, still the public have a right to demand from the medical profession a positive finding and definite pronouncement of the facts herein related and somewhat cursorily discussed.

In conclusion, let me add a case in point recently seen by me—that of a boy, six years of age, suffering from scarlet fever (there is no hospital provision in this district for scarlet fever). The boy is confined strictly to one room; no one enters it but the mother. Three of his sisters have to-day been notified by the overlooker of the factory where they are employed that they are "stopped" until their brother is well. Now this means a loss of 30*s.* a week to these poor people. Strange to say, however, scarlet fever occurred in this family five years ago, and by conscientiously confining the then patient to her room all the others escaped. The mother now resents this enforced loss very much and pertinently asks me why if she did not carry the infection from one room to another five years ago, it can be possible now for her daughters to carry the infection to a factory two miles off?

Netherfield.

BENCE-JONES ALBUMOSURIA, WITH REPORT OF THREE CASES.

BY JAMES M. ANDERS, M.D., PH.D., LL.D.,

PROFESSOR OF THE PRACTICE OF MEDICINE AND CLINICAL MEDICINE IN THE MEDICO-CHIRURGICAL COLLEGE, PHILADELPHIA; ATTENDING PHYSICIAN TO THE MEDICO-CHIRURGICAL HOSPITAL, PHILADELPHIA, ETC.;

AND

L. NAPOLEON BOSTON, A.M., M.D.,

BACTERIOLOGIST TO THE PHILADELPHIA HOSPITAL; DEMONSTRATOR IN CHARGE OF THE CLINICAL LABORATORY OF THE MEDICO-CHIRURGICAL COLLEGE, PHILADELPHIA.

ALBUMOSE may appear in the urine as a result of pathological conditions and is dependent upon the decomposition of organised proteids, except in cases of the enterogenic form. It may owe its origin to the action of bacteria upon tissues or it may result from the action of certain chemical poisons (phosphorus). It is also observed in connexion with the various cirrhoses of the liver, acute yellow atrophy, gastric cancer, gangrene, acute or chronic suppuration, acute inflammations of the serous surfaces, leucocythæmia, the acute infectious fevers, after death of the fœtus, and normally during involution of the uterus. Rarely has Bence-Jones albumosuria been observed to be a co-existing feature of primary lesions of the bones (myeloma), and at least one of the cases reported below exemplifies this form of the condition. In 1847 Henry Bence-Jones presented the first recorded instance before the Royal Society of London; and three years later MacIntyre published a clinical report of this case. The discovery of Bence-Jones appears to have received but little attention for a period of 24 years when Kühne (Solly reported a questionable case, however, in 1846) detected this substance in the urine; but it was not until 1883 that Kühne published a report of his observation in connexion with the clinical history by Stokvis. In 1889 Kahler and Huppert reported a case from a clinical and chemical standpoint respectively; Stokvis recorded a second case in 1891, Seegelken a case in 1895, and Bozzolo in 1897 recorded another under the title of "Sulla Malattia di Kahler," thus recognising Kahler as the one first to designate the relation existing between albumosuria and primary bone lesions. Von Rustizky as early as 1873, however, classified these lesions as "multiples myelom." Rosin (Senator), Ewald, Fitz, Naunyn, Bradshaw, Ellinger, J. A. Milroy, and J. H. Wright contributed cases during this year. Vladimer de Holstein, Sternberg, Askanazy, Raschkes, Hamburger, Kalischer, Rostoski, Jochmann and Schumm and A. Gutterink and C. de Groff have also made valuable contributions to the literature of the subject.

Since the original publication of Bence-Jones's discovery of albumosuria associated with "osteomalacia fragilis rubra" there have appeared in the literature records of 21 cases in which neoplasm of the bones regarded as probable myelomata was disclosed post mortem. In eight cases the tumours were observed ante mortem. In addition to those cases displaying a co-existence of albumosuria and primary myelomata von Jaksch and Fitz have each found albumosuria in a case of myxœdema and Askanazy noted it to be a prominent feature in one of lymphatic leukemia, while Zuelzer observed this body present in the urine of a dog poisoned by pyrodin. To the above cases, 30 in all, should be added three of albumosuria that occurred in our own experience and are herewith reported.

CASE 1.—A man, aged 32 years, first came under the care of one of us (Boston). The patient was exceptionally well developed and was fond of athletics. He was born in California and had had the diseases of childhood, including scarlet fever at the age of 14 years, after which period he

enjoyed perfect health except for an attack of malaria at 20 years of age which was followed by several relapses, continuing over a period of more than a year. His father died from Bright's disease at 56 years of age and his mother from apoplexy at 55 years of age; both were large in stature, weighing over 200 pounds. A brother and a sister died during childhood (cause unknown).

The following is the history of the patient's last illness. On Sept. 20th, 1900, while working at his trade he fell from the second storey of a building to the cellar, a distance of 20 feet. He was found unconscious by his fellow workmen and was taken to the hospital, where he soon recovered consciousness and was allowed to walk to his home. As a result of this fall he complained of soreness in his back, confined to the lower dorsal and lumbar regions, but he returned to his work a week later. During the latter part of November, 1900, he developed a typical form of herpes zoster affecting the right side. At this time he was voiding 2900 cubic centimetres of a pale urine during the 24 hours. He first noticed intense thirst which was allayed only by drinking large quantities of water. During December he complained of weakness, dimness of vision which caused him to remain from work for a time, and pronounced frontal headaches. Early in January, 1901, he returned to work, when on lifting a piece of timber he was seized with severe pain in the lumbar region accompanied by a feeling of "giving away of the backbone," as he expressed it, and was carried to his home. At this time tenderness could be elicited by deep pressure over the lower dorsal vertebræ, and this was also present, though less marked, over the lumbar vertebræ and crest of the right ilium. There was more or less constant pain in these regions and in the right thigh. Two weeks later he experienced a similar "giving away" in the right hip while ascending the stairs. Repeated subsequent attacks of this nature, affecting either the hip or back, were experienced. In February the patient stated that he had lost 60 pounds in weight during the previous 12 weeks; he now weighed 135 pounds. There were a decided pallor and a peculiar expression, the eyes having a staring prominence, with œdema beneath them, which at times involved the entire face and greatly distorted the features. Œdema of the hands and feet was present, that of the latter increasing as the disease advanced.

On March 10th the patient was seized with intense pain over the region of the liver which followed an attack of vomiting. There was now present a small nodule apparently developing from the eighth rib in the mid axillary line; this soon grew to the size of a horse-chestnut. Both the patient and the nurse insisted that this lump enlarged during each paroxysm of vomiting, and that firm pressure over the tumour diminished its size and gave the patient almost instant relief from pain. At about this time he complained of pain (cramp-like) in the right thigh and of extreme tenderness on the inner surface of the femur at the junction of its upper and middle thirds. On April 22nd (the date of death) this region displayed a tumour of the size of a hen's egg, developing from the femur. Neither crepitus (a symptom to which other observers have called attention) nor fluctuation was present. A tumour had also protruded from the posterior border of the right tonsil which interfered with deglutition and prevented the use of solid foods. This mass was also painful, but the mucous surface of the throat presented nothing abnormal.

The area of cardiac dulness was slightly increased downwards and to the left. A soft systolic murmur was audible at the apex and was transmitted for a distance of three inches towards the axilla. There was also a soft systolic murmur heard over the base of the heart (hæmic) and faintly transmitted to the carotids. The pulse ranged from 75 to 120 beats per minute but was slow in proportion to the degree of prostration. Later it became compressible and intermittent. There was no atheroma of the arteries. Epistaxis was copious and frequent. Vomiting both before and after the taking of food was an early feature and persisted throughout. Constipation developed early. Cephalalgia was constantly present in the frontal region but occasionally became parietal and occipital. Upon firm pressure an extremely tender area was detected over the left orbit. The hearing was dulled and tinnitus was annoying. Insomnia became marked about Jan. 1st, after which he was unable to sleep soundly without the aid of drugs. Cramps in the lower limbs, at times limited to the thighs, caused great suffering. The voice was husky and the speech was slow and somewhat "drawn." In addition to the decided loss of sight before mentioned and the constant floating of specks before the eyes an ophthalmoscopic examination by L. Webster Fox disclosed choked disc, retinal hæmorrhages, and the white deposits common to chronic nephritis. Marked pain on voiding urine, which continued throughout the act, was a late symptom. The hæmoglobin was found to fluctuate between 52 and 70 per cent.; the red cells varied from 3,500,000 to 4,100,000 and the white cells from 8000 to 16,000 per cubic millimetre. The red cells reacted normally to stains but poikilocytosis was well marked. In the stained specimens the white cells showed nothing abnormal. The urine contained Bence-Jones albumose (*vide infra*). No necropsy was permitted.

CASE 2.—A man, aged 43 years, married, and temperate as to eating and drinking, came under the care of one of us (Anders) on Nov. 18th, 1901. The family history revealed gout, rheumatism, and intense headaches among his ancestors. The patient had had the diseases of childhood, including three attacks of measles; he had also been troubled with neuralgia during adolescence. Three years ago he met with a bicycle accident which resulted in a fracture of the right leg, and although recovery ensued he had since then complained of pains in the seat of fracture. One year ago acute articular rheumatism developed and lasted for three weeks. For a considerable period of time he had suffered at intervals from severe celphalalgia affecting the left side of the head. In January, 1901, he first discovered certain urinary phenomena which were interpreted by his former physician as belonging to nephritis; he became dyspnœic and at times suffered from cardiac palpitation. The rheumatoid pains had recurred at brief intervals. There had been no febrile movement observed, but there had been a rapid reduction of the body-weight during the past four months; his usual weight in health was 219 pounds, while when first seen it was 167 pounds. Hand in hand with the rapid loss of weight the strength had also declined and the patient often alluded to a sudden "giving way" of one or other leg while attempting to walk. There had been four severe attacks of epistaxis since March 1901. The speech was thick, blurred, and slow; the tone was dry and "leathery," resembling the voice in myxœdema. The patient often complained of intensely painful shins, especially when they were warmed by the bed-clothes. Occasional pains affecting the lower extremities and wandering pains about the arms, shoulders, and back were complained of, and insomnia had been a troublesome feature during the past three months, although he slept well for a single night at intervals of several days. Violent headaches in the form of hemicrania affecting the left side had been present for a period of about four months; this symptom was remittent and occasionally intermittent, but it was exceedingly severe at some portion of each day, particularly during the early morning hours, and demanded anodynes for its relief. Pressure above the left orbit showed a painful tender spot, corresponding with the point of emergence of the supraorbital nerve. The sexual function had been in abeyance for a considerable period of time. The appetite was poor and the liver function was decidedly sluggish. In order to regulate the bowels the patient had been obliged to use a laxative daily. Vomiting occurred at irregular intervals, at times on rising in the morning, and again, though less commonly, after food. Walking early induced fatigue. The temperature was slightly subnormal as a rule.

The left ventricle was slightly hypertrophied and the aortic second sound was perhaps slightly accentuated, but the pulse was weak, soft, and compressible. No murmurs were audible over the præcordium. The eyes bulged and the gaze was staring; the skin presented a dirty-yellow or sallow colour; the facies expressed suffering as a rule. No tumour masses were detected, although the skull, sternum, and shins were tender to pressure. The urine contained Bence-Jones albumose, a symptom to which allusion will be made later. Examination of the blood showed that the red cells numbered 3,750,000 and the white cells 23,000 per cubic millimetre, the hæmoglobin amounting to 60 per cent. Poikilocytosis was marked and the red cells reacted normally to stains. The differential count gave polymorphonuclear 72·12 per cent., large lymphocytes 8·17 per cent., small lymphocytes 11·06 per cent., transitional 2·9 per cent., and large mononuclear 5·8 per cent. No nucleated red or eosinophilic cells were found. 200 white cells were counted,

Ophthalmoscopic examination made by L. Webster Fox showed colloid deposits above and below the optic nerve and retinal hæmorrhages in both eyes. There was no evidence of optic neuritis, but there was considerable arterio-sclerosis.

On Jan. 7th, 1902, the patient returned to his home in the country and his physician there reports that on account of racking acute pains in the inferior extremities he was unable to leave his bed. Exertion seemed particularly painful. About one month ago this patient died. No necropsy was permitted.

CASE 3.—A man, aged 33 years, of German descent though an American by birth, first came under the care of one of us (Anders) on Oct. 12th, 1900. The patient's habits as to the use of intoxicants had been rather intemperate up to a few years ago, since which time, however, no stimulants of any description had been used. The following significant family history was obtained: the mother died from cirrhosis of the liver eight months ago; the father was living at 66 years of age and was afflicted with double cataract; he also suffered from gout and rheumatism. One paternal uncle died from Bright's disease. The patient had had the diseases of childhood and from the seventh year of age had annually suffered from an attack of tonsillitis. When 18 years old he had diphtheria, followed by facial paralysis of the left side; this complication was ascribed to the application of caustic to the throat. Complete recovery did not ensue and there is still noted an occasional twitching of the muscles, with a tendency to contracture of the facial muscles of the affected side. An ophthalmoscopic examination made by L. Webster Fox gave this result: "The right eye shows colloid degeneration of the retina as well as sclerosis of the blood-vessels. The white deposits, so characteristic of chronic interstitial nephritis, are defined above and around the macular region. The macula itself has escaped its destructive influences, which accounts for his good vision. There is a suspicion of hæmorrhage here and there throughout these deposits. The optic nerve shows slight infiltration; this may be problematic. The left eye shows a normal fundus. There are no deposits and no destruction of the retina. The arterio-sclerosis of the blood-vessels is not so pronounced as in the right eye. This is rather peculiar, as the blood-vessels of both eyes should present the same characteristics. The pupillary reaction is normal and the muscles are perfectly balanced."

The present illness was discovered six years ago during an application for life insurance, when albumin and tube casts were discovered in the urine. No other subjective or objective signs of kidney disease, however, put in an appearance until three years since, when he first observed some malleolar œdema. This symptom had recurred at long intervals and he had also suffered from occasional headaches during the same period. The physical signs at the time of his first visit showed moderate enlargement of the left ventricle with distinct accentuation of the aortic second sound and slight œdema of the legs. The body surface looked pale. These signs have not undergone any noteworthy changes up to the present. The urine contained Bence-Jones albumose and other morphological elements to which detailed reference is made below. Examination of the blood showed that the hæmoglobin amounted to 69 per cent.; the red cells numbered 3,200,000 and the white cells 40,000 per cubic millimetre. A differential count gave polynuclear cells 65 per cent., large mononuclear 5 per cent., transitional 4 per cent., large lymphocytes 15 per cent., small lymphocytes 10 per cent., and eosinophiles 1 per cent.; there were no nucleated red cells. Poikilocytosis was marked. Apart from some emaciation that has occurred during the last six months there has been no appreciable change in the general condition of the patient until the present.

THE URINE.

CASE 1.—The urine was of a light straw colour and displayed a persistent froth on shaking; the 24 hours' product equalled 2900 cubic centimetres, having the consistence of syrup, and was faintly acid except for an occasional specimen which was neutral in its reaction; the specific gravity varied from 1002 to 1010. The quantity of urea was practically normal and the urine was found to be free from sugar. The total amount of proteid by the Esbach method equalled 0·27 to 0·35 per cent. It was precipitated by nitric, sulphuric, and hydrochloric acids, but was not soluble in excess except by the aid of heat. 13 other reagents employed for the detection of serum albumin gave decided reaction for that body.[1] Casts were not found at any time. The tests employed have been those suggested by Huppert, Mathes, and Milroy.

1. More striking were the changes observed upon the gentle application of heat to the filtered urine. When heated on a water-bath it showed a slight turbidity at about 50° C., and at from 56° to 60° it became opaque and a white precipitate in the form of coarse flocculi was observed, which for the most part was redissolved at a temperature of from 90° to 95° C. A test-tube filled to two-thirds of its depth was placed over the flame of a Bunsen burner so as to heat only the upper third of the column of urine. As the temperature reached from 52° to 54° C. an opalescence was observed which developed into a dense cloud at from 56° to 60° C. and formed a rather heavy coagulum when heated to a temperature between 60° and 90° C. The addition of a few drops of dilute acetic acid to the urine caused the opalescence to appear at a lower temperature (37° C.). In case the heating was continued at a temperature of from 95° to 100° C this coagulum would disappear (dissolve) in part and often entirely when ebullition was prolonged for one minute, but when allowed to cool the urine became equally as turbid as it was before the boiling temperature had been reached, or even more turbid.

2. Upon the addition of concentrated nitric acid drop by drop to the urine after heating the upper third of the column it caused a precipitate to appear in the track of the acid as it traversed the cold stratum of the urine to the bottom where, after the addition of several drops, a rather dense precipitate of a pink or yellowish hue was seen which on standing developed a golden colour.

3. Nitric acid added drop by drop, shaking after each additional drop, caused a slight pinkish colour, affecting most the heated portion of the column.

4. A specimen of the acidulated urine was gradually heated to the boiling point, cooled and filtered, and the filtrate thus obtained apparently contained but little proteid, displaying a slight opalescence with acetic acid but no precipitate resulted when nitric acid was employed. The latter caused a pink tint to appear which became yellowish on the addition of ammonia.

5. A quantity of the urine was placed in a beaker and heated to from 52° to 54° C., cooled and filtered. The precipitate collected was dissolved by washing with a solution of soda of a specific gravity of 116. When thus prepared it gave well-marked Millon's and biuret reactions. The precipitate, when heated with lead acetate and caustic soda (30 per cent.), became blackened due to the formation of lead sulphide, showing that the precipitate obtained in this manner contains sulphur in considerable amount. Boiling before filtering altered in no way these reactions.

SATURATION WITH NEUTRAL SALTS.

CASE 1.—A quantity of urine was saturated with a neutral solution of ammonium sulphate, which completely precipitated the albumose. Saturation with sodium chloride in neutral solution caused a precipitate of but a portion of the albumose, the filtrate giving a decided clouding upon the addition of a small quantity of dilute acetic acid; but the filtrate from the second precipitate did not contain albumose. The body with which we are dealing differs from proto- and hetero-albumose in that it is not completely precipitated with sodium chloride in neutral solution. It resembles hetero-albumose in that it is precipitated on the addition of acetic acid, after saturation with sodium chloride, or magnesium sulphate, but differs from this body in being precipitated at a temperature of 52° C. A test-tube containing urine saturated with neutral sodium chloride solution to which a few drops of nitric acid were added gave a precipitate on heating, which disappeared on nearing the boiling point but reappeared upon cooling. Saturation with neutral salt exercised but little effect upon the precipitate caused by sulphuric and hydrochloric acids. It was also precipitated by tannic and picric acids. After acidulating the urine with dilute acetic acid and heating sufficiently to precipitate the albumose the temperature was raised sufficiently to dissolve it, and upon the addition of a few drops of nitric acid the precipitate did not reappear with the usual rapidity upon cooling. Urine saturated with neutral salt to which a few drops of nitric acid were added and the temperature rapidly brought to the boiling point showed but little tendency to form a precipitate upon

[1] Boston: New York Medical Journal, 1902 (Albumin in the Urine A New Way for applying Nitric Acid and other Reagents).

cooling. At times this precipitate did not appear for one or more hours. The method commonly employed in these analyses was to saturate the urine with a solution of neutral salt, then a drop or two of dilute acetic acid were added, and the temperature was gradually raised to the boiling point, the urine was filtered hot, and the collected coagulum was then readily dissolved by washing with a solution of soda of a specific gravity of 116, after which it was tested for Millon's, the biuret, and sulphur reactions. The filtrate thus obtained contained albumose, contrary to what one would ordinarily expect. From 30 to 50 cubic centimetres were placed in a beaker and a drop of hydrochloric acid was added stirring gently, when a few drops of phosphotungstic acid were added and heat was gently applied, which when prolonged for a few minutes caused a copious precipitate to collect at the bottom in the form of a rather tough whitish mass. The clear supernatant fluid was decanted and this second precipitate was washed and dissolved in a solution of soda of a specific gravity of 116, adding drop by drop. This usually gave a colourless mixture, but occasionally it was noted to possess a blue tint which disappeared when the specimen was gently heated. A 1 per cent. solution of copper sulphate was now added drop by drop when a purple colour would appear, rapidly changing to a pink or rich claret. On standing a golden yellow precipitate collected at the bottom of the tube. The second precipitate when dissolved was also treated with Millon's reagent and gave a bright red colour.

In Bence-Jones's, Kühne's, and Matthes' cases the proteid contained phosphorus, while in Milroy's case not a trace of phosphorus was found. No such studies were conducted in connexion with our cases. Neither were Hofmeister's, Noel Paton's, or Hopkins and Pinkus's methods employed for the crystallisation of this proteid.

Microscopic study showed the urine to contain few leucocytes, an occasional red blood-cell, epithelial cells (bladder), and a few bacteria, cocci and bacilli which were only present in the neutral specimens. No renal casts were found though many specimens were centrifugated and carefully examined. Polyuria was present in one of Hamburger's cases in which the patient voided 3530 cubic centimetres daily, while Kahler's patient voided 2230 cubic centimetres. In Case 1 of our series the patient passed 2900 cubic centimetres per diem, while in Cases 2 and 3 the patients passed 2500 and 2300 cubic centimetres respectively.

CASE 2.—The urine was as a rule feebly acid, but was occasionally neutral. The 24 hours' product was 2500 cubic centimetres, more recently only 1875 cubic centimetres. There was froth in excess; the urine was of a light straw colour and the specific gravity ranged from 1004 to 1012. The standing specimen showed only a slight amount of sediment. The total proteid estimated by the Esbach method ranged from 0·233 to 0·0012 per cent. Over a period of several months albumose was present at each analysis, the tests detailed above having been employed. During the last month of life the total amount of proteid was much reduced and a reaction for albumose could not be obtained. In this particular it resembles Stokvis's case in which the albumosuria disappeared three months before death. The albumosuria, however, did not assert itself in his case until late in the course of the disease, and this may have been true of our case since the patient had been ill for a long time and had lost 60 pounds in weight before consulting one of us (Anders). Microscopically the centrifugated specimens contained bladder epithelium, amorphous urates, few leucocytes, and an occasional red cell. Casts were not found. Certain of the specimens contained many bacteria (motile bacilli) and the question as to how this condition might influence the reactions for the Bence-Jones body naturally suggested itself, and further observation showed that the bacteriuria, when present, exercised no influence upon the reactions for albumose.

CASE 3.—The urine was usually clear, colourless, and acid; the 24 hours' product equalled 2300 cubic centimetres, the specific gravity ranging from 1008 to 1012. The total amount of proteid estimated by the Esbach method varied from 0·01 to 0·03 per cent. Serum albumin was always present in large amount. Bence-Jones albumose which was first found on Oct. 25th, 1901, was not a constant constituent until recently; it has been of late noted at each examination. When the urine contained albumose it was always noted to be of the consistence of syrup and when a drop was evaporated nearly to dryness it was found to be markedly viscid. This appears to be the sixth recorded instance in which urine containing albumose resembled syrup. In Case 1 of our series it was also observed. Microscopically, small hyaline, granular, and large (so-called amyloid) casts were always present; there were few epithelial cells, and leucocytes were occasionally found. Casts were present in Bence-Jones and MacIntyre's case and mention is made of their having been found in cases cited by Senator, Fitz, Hamburger, and Raschkes.

Albumose resembles, in many respects, histon, which may under certain conditions be derived from nucleo-histon, a proteid of the leucocytes. According to Milroy, histon resembles more closely globin than albumose and seems to be intermediate in its properties between acid albumin and albumose. Histon is precipitated from acid solutions by ammonia, while in albumose no precipitate occurs. Lilienfeld found that this body (histon) yielded a precipitate when heated, which was soluble in dilute acids. It was precipitated on the addition of nitric acid; this precipitate disappeared on heating, to reappear on cooling. It gave a distinct rose-pink colour with copper sulphate and caustic soda. Huppert first observed the resemblance existing between albumose as found in Bence-Jones albumosuria and the proteid constituent of hæmoglobin. Schultz has also studied these bodies and his conclusions are essentially the same as those of Milroy. "The two bodies resemble one another in their behaviour on the addition of hydrochloric and nitric acids and also in the fact that they both give the biuret reaction. The albumose differs from globin in being less easily precipitated by the addition of neutral salts, in giving a distinct reaction with Millon's reagent and in containing loosely combined sulphur." When precipitated by heat globin is readily soluble in dilute acids, a feature less marked in albumose.

A review of the cases of albumosuria available in the literature, 30 in number, and a more careful study of our own three examples reported above, making a total of 33 cases, appear to warrant the following inferences.

Etiology.—Albumosuria is a condition which manifests itself after the age of 30 years. Of our series one occurred at 32, another at 33, and a third at 36 years of age. Of the cases found in the literature one developed at 24, another at 37, 10 between 40 and 50, one between 50 and 60, and seven between 60 and 70 years of age. In the remaining cases the age could not be ascertained. Males are affected in 80 per cent. of the cases. In 15 per cent. of the cases (including two of our own) there is a history of an accident inflicting rather severe traumatism. Primary lesions of the bones, which should be regarded as multiple myeloma, figured in 80 per cent. of the cases. Of these the bones of the chest, vertebræ, and pelvis suffered most destruction, while one-fourth likewise presented involvement of the long bones—femur, radius, and humerus. An extreme grade of anæmia has been regarded by many writers as a predisposing factor, while others consider the anæmia to be secondary to myeloma. According to the blood-findings in our own cases, the latter view is probably the correct one. Experimentally, albumosuria results from the administration of pyrodin.

Symptomatology.—Albumosuria may be persistent, transitory, or less commonly remittent, occurring in variable degrees at different hours during the day. In certain of the cases the urine presented this phenomenon (albumosuria) after the disease was well advanced, while in others it disappeared when the disease was at its height. Where the urine contained both serum albumin and albumose the former has been noted to be absent a few days before death. In but two instances was the percentage of albumose estimated. The specific gravity ranged from 1040 to 1004. In six cases, including two of our own (Nos. 1 and 3), the urine resembled syrup. Polyuria is mentioned by Kahler, Kalischer, and Hamburger and has been a prominent feature in our three cases. Serum albumin is stated to have been found in conjunction with albumose in 30 per cent. of the cases, nearly all of which showed either hyaline or amyloid casts. A small amount of serum albumin was present in two of our cases, in the third the percentage was large, while only one of them showed tube casts. We are forced to regard albumosuria as a condition not dependent upon any known pathological changes in the kidneys themselves, but one that may appear in connexion with renal lesions. Pain is an almost constant feature, a single exception existing. It is usually referred to as bone pains, rheumatism, lumbago, neuralgia, &c. The pain occurs without apparent cause, is severe, and is often accompanied by a "giving away" of some portion of

the bony skeleton. At times it is dull and constant, again cramp-like, lancinating, and momentary. Pressure over painful bones intensifies it, as does also exercise. While the pains are commonest over the flat bones the extremities often share this agonising symptom. Cramps involving the lower extremities are common. Toothache, loosening of teeth, maxillary necrosis, and salivation may develop. Painful deglutition developed late in Case 1 of our series. Facial neuralgia is mentioned in connexion with 30 per cent. of the cases. Paralysis of the hypoglossal nerves and of the third division of the trifacial nerve is reported. One of our cases (No. 3) showed paralysis and twitching of the left side of the face. Cephalalgia is mentioned as a prominent symptom in 70 per cent. of the cases. In Cases 1 and 2 of our series it was most troublesome and in Case 3 it developed periodically. Hand in hand with rapid and progressive emaciation are noticed pallor, anæmia, prostration, and gastro-intestinal symptoms, as nausea, vomiting, diarrhœa, and constipation. In one instance jaundice developed early.

Deformities.—In 67 per cent. of all cases deformities involving the bones of either the thorax, pelvis, spine, cranium, maxilla, or extremities were apparent during life. Pathological fractures occurring without apparent cause are a common complication and were observed in one-fourth of all cases. Glandular enlargement is recorded in connexion with 15 per cent. of the cases, but in none of these did microscopic study show the growths of the glands to be identical with those developing from the bones.

Frequent painful micturition was a late symptom in one of our cases. The urine is said to have been passed frequently in four other cases. Epistaxis proved an early and annoying symptom in two of our cases and was occasionally present in the third. Changes in the voice are recorded in 16⅔ per cent. of the cases, while in 12½ per cent. impairment of the auditory function existed. Tachycardia, palpitation, and dyspnœa are repeatedly referred to in the literature and were prominent in our cases. Insomnia was present in three of the cases furnished by the literature and in two of our series (25 per cent. of the cases). A moderate degree of pallor has been a constant feature. The skin is dry and harsh and at times presents a muddy or dirty yellow colour.

Mention is made of impairment of vision in four cases furnished by the literature. One developed glaucoma and another showed strabismus and double vision. In our cases failing sight was an early and progressive symptom. Ophthalmoscopic examination revealed sclerosis of the vessels, colloid degeneration of the retina, retinal hæmorrhages, and the white deposits common to chronic nephritis. Reference is made to a rather severe progressive anæmia in most of the cases; for example, in those of Ellinger, Askanazy, Vickery, Musser, and Fitz, whilst in our series it was more moderate. Record of a complete blood examination appears in connexion with but eight cases, including the three herein reported. Our cases showed leucocytosis of 16,000, 23,000 and 40,000 per cubic millimetre respectively, red cells between 3,200,000 and 3,750,000, and hæmoglobin between 60 and 70 per cent. Eosinophilic cells were diminished in one and absent in two. Pneumonia as a complication is given as a cause of death in 12½ per cent. of the cases. The duration of the condition is usually less than two years; one case, however, is recorded in which albumosuria persisted for more than eight years.

Bence Jones albumose is a body more or less closely allied to peptones, globin, histon, and the digestive albumoses, but it displays certain characteristics unknown to these substances. It is a normal constituent of spermatic fluid, and may be found in the bone marrow in cases of myeloma. In conclusion, Bence-Jones albumose when present in the urine is invaluable as a diagnostic feature in cases of obscure multiple myeloma in which no other symptoms of this disease exist. It also serves in differentiating multiple myeloma from other bone lesions, as carcinoma, sarcoma, osteomalacia, &c. Albumosuria, if continuous, is of grave prognostic significance and but a single exception is recorded wherein the disease has not proved fatal in less than two years. Where the albumose has persisted for some time its disappearance signifies approaching danger and probably an early fatal issue. Since serum albumin is a common co-existent of Bence-Jones albumose its disappearance from such urine may also presage complications of a serious character.

Bibliography.—Askanazy: Deutsches Archiv für Klinische Medicin, 1900, Band lxviii., S. 34. Bence-Jones, Henry: Philosophical Transactions of the Royal Society, 1848, Pt. 1, p. 55. Blair: Brit. Med. Jour., 1901, vol. ii., p. 713. Bozzolo: VIII. Congresso di Medicina, 1897, Transactions. Bradshaw: Transactions of the Royal Medical and Chirurgical Society, London, 1899, p. 231. (For discussion of this report see Proceedings of the Royal Medical and Chirurgical Society, third series, vol. xi., pp. 72 to 81.) Buchstab and Schapaschnikoff: Russisches Archiv für Pathologie, Klinische Medicin, und Bacteriologie, 1899, vol. viii., p. 11 (Russian). Butlin: Transactions of the Pathological Society of London, 1879, vol. xxxi., p. 277. Coates: Glasgow Medical Journal, 1894, vol. xxxvi., p. 420. Councilman: Journal of Experimental Medicine, 1898, vol. iii., p. 401. Dalrymple, M.: Dublin Quarterly Journal of Medical Science, 1846, p. 85. Dreschfield, cited by Milroy. Ellinger: Deutsches Archiv für Klinische Medicin, 1899, Band lxii., S. 256. Ewald: Wiener Klinische Wochenschrift, 1897, S. 169. Fitz, R. H.: American Journal of the Medical Sciences, 1898, vol. cxvi, p. 30. Flatau: Münchener Medicinische Wochenschrift, Feb. 16th, 1897, S. 175. Grawitz: Virchow's Archiv, 1879, Band lxxvi., S. 353. Gutterink and de Groff: Zeitschrift für Physiologische Chemie, 1902, Band xxxiv., S. 392. Hamburger, L. P.: Johns Hopkins Hospital Bulletin, vol xii. Hammer: Virchow's Archiv, 1894, Band cxxxvii., S. 280. Herrick and Hektoen: Medical News, 1894, vol. lxv., p. 339. Hofmeister: Cited by Milroy. Hopkins and Pinkus: Cited by Milroy. Huppert: Neubaur und Vogel's Analyses des Harns, Wiesbaden, 1898, S. 875; also Centralblatt für die Medicinische Wissenschaften, 1898, No. 28. Iglehart: Associated with Hamburger's case. Jadassohn: Berliner Klinische Wochenschrift, 1893, Band xxx., S. 222. Von Jaksch: Prager Medicinische Wochenschrift, 1892. Band xvii., S. 602. Jochmann and Schumm: Münchener Medicinische Wochenschrift, 1901, Band xlviii., S. 1340. Justi: Virchow's Archiv, 1897. Band cl., S. 197. Kahler: Prager Medicinische Wochen-chrift, 1889, No. 4, p. 5. Kahler and Huppert: Prager Medicinische Wochenschrift, 1889. Band xiv., S. 35. Kalischer: Deutsche Medicinische Wochenschrift, 1901, Band xxvii., S. 54. Klebs: Allgemeine Pathologie, 1889, Band ii., p. 675. Krompecher: Ziegler's Beiträge zur Pathologischen Anatomie, 1900, Band xxvii., S. 431. Kühne: Zeitschrift für Biologie, N. F., Band i., 1883, S. 210. Kühne and Stokvis: Zeitschrift für Biologie, 1883, Band xix., S 159, 209; 1884, Band xx., S. 11. Lilienfeld: Zeitschrift für Physiologische Chemie, Strasburg, 1894, Band xviii., S. 473. MacCallum: Journal of Experimental Medicine, vol. vi., No. 1, p. 55. MacIntyre: Transactions of the Royal Medical and Chirurgical Society, London, 1850, vol. xxxiii., p. 211. Magnus Levy: Zeitschrift für Physiologische Chemie, 1900, Band xxv., S. 200. Markwald: Virchow's Archiv, 1895, Band cxli., S. 128. Marschalko: Archiv für Dermatologie und Syphilis, 1895, Band xxx., S. 3. Matthes: Verhandlungen des Congresses für Innere Medicin, Band xix., S. 476, 1896. Miescher: De Inflammatione Ossium eorumque Anatomia Generali, 4 to 5, Berolini, 1836. Milroy, J. A.: Journal of Pathology and Bacteriology, December, 1900, p. 95. Müller: Deutsches Archiv für Klinische Medicin, 1891, Band xlviii., S. 57. Naunyn: Deutsche Medicinische Wochenschrift, 1893, Vereins Beilage, S. 217. Neumeister: Lehrbuch der Physiologischen Chemie, Auflage ii., 1897, S. 804. Nothnagel: Festschrift, Rudolf Virchow, Berlin, 1891, Band ii., S. 155. Paltauf: Ergebnisse der Allgemeinen Pathologie und Pathologischen Anatomie, herausgegeben von Lubarsch und Ostertag, 1898, vol. iii., S. 676. Paton, Noel: Bramwell and Paton, Report from the Laboratory of the Royal College of Physicians of Edinburgh, 1892, vol. ix. Raschkes, A.: Prager Medicinische Wochenschrift, 1894, No. 51, S. 649. Rokitansky: Lehrbuch der Pathologischen Anatomie, 1856, Band ii., S. 132. Rosin (Senator): Berliner Klinische Wochenschrift, 1897, Band xxxiv., S. 1044; also No. 43 and ibid., 1899, Band xxxvi., p. 161. Rostoski: Münchener Medicinische Wochenschrift, 1901. Band xlviii. S. 1115; Deutsche Medicinische Wochenschrift, 1901, S. 224. Runeberg: Deutsches Archiv für Klinische Medicin. Leipsic, 1883. Von Rustizky: Deutsche Zeitschrift für Chirurgie, 1873, Band iii., S. 162. Schultz: Zeitschrift für Physiologische Chemie, Strasburg, 1898, Band xxiv., S. 449. Seegelken: Deutsches Archiv für Klinische Medicin, 1897 Band lviii., S. 126 and 276. Senator: Archiv für Pathologische Anatomie, &c., 1874, Band lx., S. 476; also Berliner Klinische Wochenschrift, 1899, Band xxxvi., p. 161. Simon: American Journal of the Medical Sciences, June, 1932, p. 939. Solly: Dublin Quarterly Journal of Medical Science, June, 1846. Solon Martin: Solon's Treatise, p. 423 (De l'Albuminurie). Specimens preserved in the Pathological Museum of University College, Liverpool. Spencer: Brit. Med. Jour., Jan. 18th, 1896. Sternberg: Nothnagel's Specielle Pathologie und Therapie, 1899, Band viii., Theil 2, Abtheilung 2, S. 57 and S. 83. Stokvis: Nederlandsche Tijdschrift voor Geneeskunde, 1981, vol. ii., p. 36, cited in Maly's Jahresbericht, 1892, vol. xxi., p. 412. Thomas: Boston Medical and Surgical Journal, Oct. 3rd, 1901. Unna: Monatshefte für Praktische Dermatologie, 1891, Band xii., S. 296. Vickery: International Clinics, 1902. Virchow: Die Krankhaften Geschwülste, Band ii., S. 7, Berlin, 1864. Vladimer de Holstein: La Semaine Médicale, 1898, p. 206; and 1899, p. 82. Waldstein: Virchow's Archiv, 1883, Band xci., S. 12. Weber, F. P.: Journal of Pathology and Bacteriology, January, 1893. Weber, Hermann: Transactions of the Pathological Society of London, 1866, vol. xviii., p. 206. Wieland: Primare Multiple Sarcoma der Knochen, Inaugural Dissertation, Basle, 1893. Williams: cited by Bradshaw. Winkler: Virchow's Archiv, 1900, Band clxi., S. 252. Wright: Journal of the Boston Society of Medical Science, vol. iv., April, 1900; Transactions of the Association of American Physicians, vol. xv., 1900. Zahn, F. W.: Deutsche Zeitschrift für Chirurgie, 1885, Band xxii. Zeihntsen (Stokvis): Jahresbericht für Thier-Chemie, Band xxi., S. 412; Band xxii., S. 525; Band xxiii., S. 577. Zuelzer: Berliner Klinische Wochenschrift, Oct. 1st, 1900, 37 Jahrgang, No. 40.

Philadelphia.

AN AMERICAN PATENT.—An American inventor has patented "a combined lid or cover and canopy for coffins and caskets." The specification and drawing are given in the *Official Gazette* of the United States Patent Office issued on Dec. 16th. The illustration shows a hinged or jointed framework attached to the upper edge of a coffin, by means of which framework the lid may be supported at a height above the coffin approximately equal to the depth of the coffin itself. The purpose thereby intended to be served is not stated.

INTRAVASCULAR ANTISEPSIS.

BY J. M. FORTESCUE-BRICKDALE, M.A., M.B., B.CH. OXON.

(From the Bacteriological Department, Jenner Institute of Preventive Medicine.)

THE idea that drugs might advantageously be administered by direct injection into the circulation was first started by an English mathematician and architect and has had its latest exponent in an Italian Cabinet Minister. Sir Christopher Wren in 1656 was the first to carry out the "noble anatomical experiment" and the medical profession has coquetted with the method ever since—exaggerated enthusiasm for it alternating with absolute neglect. Ettmüller, Purmann, Major, and Escholtz during the last half of the seventeenth century, and Percy, Majendie, Scheel, and Dieffenbach during the first quarter of the nineteenth century gave the method extended trials. Since the latter period, Oré and Halford endeavoured to introduce it for special purposes but met with no lasting success; whilst recently Baccelli, Landerer, Maguire, and others have revived it in connexion mainly with the treatment of bacterial diseases or diseases presumably of parasitic origin. That it is possible to introduce small quantities of a large number of substances directly into the veins cannot be denied but that any great advantage can be obtained by such a procedure has never as yet been experimentally demonstrated. The advocates of the "Chirurgia Infusoria," as Major called it, have based their opinions as to its merits on various grounds, and it is only with the attempts to carry out one of the recent theories for its application that the present paper will deal. For many years experimenters and clinicians have been endeavouring to apply antiseptic principles to the treatment of septicæmic diseases. Baccelli, who introduced the intravenous injection of perchloride of mercury in syphilis (a proceeding which, after prolonged trial throughout Europe, has been practically abandoned as presenting no special advantages), extended his method to epidemic cerebro-spinal meningitis, acute rheumatism, and other diseases, notably aphtha epizoötica in cattle. His early successes with the last-mentioned ailment have not, however, been attained by other observers; in fact, it has been conclusively shown that perchloride of mercury injected intravenously has absolutely no effect either in preventing or modifying an attack.[1] The effect was undoubtedly intended to be that of an internal antiseptic but a dilution strong enough to harm any bacteria living in the blood could not be obtained with a non-toxic dose of the drug. Maguire and Ewart[2] in this country have recently tried to render the lungs aseptic by injecting comparatively large quantities of formic aldehyde and protargol respectively. 200 tuberculous patients have been treated by the former method and the results, except in severe cases, are reported as successful. A solution of formic aldehyde (1 in 100,000 in the blood) can be passed through the lungs for half an hour, while Ewart has succeeded in flushing the smaller circulation with protargol of a strength equal to nearly 1 in 500. Of these two methods only the latter can be said *primâ facie* to have any chance of success, the formic aldehyde solution being too weak to exert any effect *in vitro*. The clinical evidence, however, is, according to both experimenters, encouraging. Credé[3] in Dresden has injected a preparation of citrate of silver, but the exact antiseptic power of the solution *in vitro* has not been accurately determined, so far as I am aware, and the clinical results are too few in number and too miscellaneous in character to carry much weight.

As against these clinical experiments there is a growing mass of laboratory work which may be said to be wholly unfavourable to the idea of intravascular antisepsis. In 1887 Behring[4] found that oxide of silver when injected in non-lethal doses into rabbits, guinea-pigs, and mice infected with anthrax rather lengthened the life of the animals. In toxic doses the anthrax bacilli were only rarely found post mortem in the blood and organs.

The late Dr. J. W. Washbourn[5] in 1888 injected creolin subcutaneously, but failed to cure either rabbits or mice, though fewer anthrax bacilli were found in the animals treated. Fischer and Fricker[6] tried intra-peritoneal injections of formic aldehyde in guinea-pigs inoculated with tubercle, but found that in all cases the control animals survived those which had received the injections. In 1884 Cash[7] succeeded in curing rabbits of anthrax by hypodermic injections of perchloride of mercury. The injections were made for some weeks before inoculation and were not by any means uniformly successful. Koch[8] and Behring,[9] who repeated his experiments, failed to get positive results, and Cadéac[10] stated that dogs treated in this way actually had their resistance to anthrax considerably diminished. During the past year Spissu[11] and Serafini[12] made some accurate and extensive investigations with the same drug. The former observer determined the maximum non-lethal dose for rabbits at 0·0003 gramme per 100 grammes body-weight, but found that even toxic doses failed to prevent the growth of anthrax bacilli in the blood. Serafini's dosage was 0·00027 gramme per 100 grammes body-weight and he also had negative results both with anthrax and fowl cholera in rabbits. With a view of obtaining further evidence on this subject the following experiments were carried out at the Jenner Institute of Preventive Medicine during the summer of the past year. In planning these experiments I had two objects in view; firstly, to test the toxicity of various antiseptics when injected into the veins of rabbits, and secondly, to discover if any of them exerted an influence on the course of an artificially produced septicæmia. The actual injections were kindly made for me by Dr. A. Macfadyen.

The following substances were chosen for the first series of experiments: (1) perchloride of mercury, (2) oxycyanide of mercury, (3) formic aldehyde, (4) chinosol, (5) a mixture of formic aldehyde and chinosol, (6) protargol, and (7) taurocholate of sodium. In all cases the solutions were freshly prepared for each injection, the substances being carefully weighed on a chemical balance; the injections were made with antiseptic precautions into the marginal veins in the rabbit's ears. The idea was so to regulate the doses that a number of injections could be made on successive days, not merely one large injection at a given time after infection, as was the case in Spissu's and Serafini's experiments. In this way I thought it possible that some tolerance of the drugs might be established.

1. Five rabbits were treated with perchloride of mercury in various strengths, but even in dilutions of 1 in 2000 doses of half a cubic centimetre repeated at intervals of about 48 hours produced progressive emaciation, while larger doses (six cubic centimetres of 1 in 1000) repeated daily for three days gave rise to diarrhœa and death. In the former case the proportion of perchloride of mercury was 0·00001 gramme per 100 grammes body-weight, which would approximate to 0·00013 per cent. solution of the salt in the total volume of the blood; 1 in 2000 perchloride of mercury being necessary to kill anthrax bacilli in blood serum (Behring[13]) no further experiments were made with this substance.

2. Rabbits were found to tolerate oxycyanide of mercury ($HgOHg(CN)_2$) in a proportion of 0·00004 to 0·00005 gramme per 100 grammes body-weight, which would produce a solution of about 0·0006 per cent. to 0·0007 per cent. in the blood. De la Croix[14] found that 0·00125 per cent. was necessary to inhibit the growth of anthrax in broth. Larger doses, however, were not found practicable as the animals rapidly lost weight and died.

3. Formic aldehyde in 1 per cent. solution can be injected with safety in small doses. Two cubic centimetres of a 1 in 65 solution produced in one rabbit an immediate discharge of mucus from the nose, and with solutions of this

[1] Journal of Comparative Pathology and Therapeutics, 1902, p. 87.
[2] Proceedings of the British Congress on Tuberculosis, 1901, vol. iii., pp. 438 et seq.
[3] Berliner Klinische Wochenschrift, Band xxxviii., 1901, p. 941.
[4] Deutsche Medicinische Wochenschrift, Band xiii., p. 830, Sept. 22nd, 1887.
[5] Guy's Hospital Reports, 1888, p. 365.
[6] Transactions of the Chicago Pathological Society, Feb. 10th, 1902, p. 61.
[7] Local Government Board Medical Officer's Report, 1884, p. 200; 1885, p. 185.
[8] Mittheilungen aus dem Kaiserlichen Gesundheitsamte, 1881, Band i., p. 280.
[9] Bekämpfung der Infektions-Krankheiten, 1894, p. 35.
[10] Journal de Physiologie et Pathologie Générales, tome iv., p. 121, 1902.
[11] Riforma Medica, Fasc. 84, p. 99, 1902.
[12] Münchener Medicinische Wochenschrift, Band xl., p. 649, 1902.
[13] Flugge: Die Mikro-organismen, Band i., p. 452, third edition, 1886.
[14] Archiv für Experimentelle Pathologie und Pharmacologie, Band xiii., p. 175, 1881.

strength some irritation of the nasal mucous membrane generally occurred, as evidenced by the animal standing up on its hind legs and rubbing its nose with the fore paws for some little time. A 2 per cent. solution generally led to œdema of the ears after a few days. One cubic centimetre of a 1 per cent. solution injected about every other day, representing a proportion of about 0·00045 gramme per 100 grammes body-weight, led to progressive emaciation when prolonged for more than a fortnight, 200 grammes being lost in nine days. Doses of this strength would amount to about 0·006 per cent. formic aldehyde in the blood; 0·002 per cent. solutions in broth have a noticeably inhibitory action on bacillus anthracis (Flügge).

4. Chinosol ($C_9H_6NKSO_4$) in doses of 0·002 gramme per 100 grammes body-weight almost invariably produced transitory paralysis; 0·0004 gramme to 0·0005 gramme per 100 grammes body weight could be given about every other day for ten days without adverse symptoms, but the weight then fell progressively, although the injections were suspended. This dose amounts to a solution of from 0·005 per cent. to 0·006 per cent. in the blood; the former strength has been found by Benecke[15] to produce an antiseptic effect on anthrax bacilli in nutrient media after an exposure of 24 hours.

5. The mixture of formic aldehyde and chinosol was given in 0·5 cubic centimetre doses, each drug being represented in a proportion of 0·00028 gramme per 100 grammes body-weight. The toxic effects (loss of weight and general symptoms of malaise) were, however, so marked even after two or three injections that no further experiments were made.

6. Protargol in doses of from 0·0002 gramme to 0·0003 gramme per 100 grammes body-weight every second or third day produced steady loss of weight from the beginning. Larger doses occasionally produced paralysis. This represents about 0·004 per cent. solution in the blood. Benario[16] states that a 0·01 per cent. solution of protargol has no inhibitory effect *in vitro*.

7. Sodium taurocholate is the most active antiseptic of the substances found in bile. It is, however, very toxic when injected intravenously in rabbits, 0·00005 gramme per 100 grammes body-weight injected every other day producing progressive emaciation after five days. The solution in the blood was 0·0007 per cent. The exact antiseptic power of this substance has not, so far as I know, been accurately determined.

The conclusions drawn from this series of experiments are:—1. That perchloride of mercury, oxycyanide of mercury, and protargol cannot be injected intravenously into rabbits in sufficient strength to produce an antiseptic effect lasting over several days. 2. That a mixture of chinosol and formic aldehyde is too toxic even in minute doses to be of use for practical purposes. 3. That chinosol or formic aldehyde can be injected intravenously so as to produce a solution which would have an inhibitory action *in vitro*. 4. That sodium taurocholate can be injected in small doses but that toxic effects manifest themselves after a few days.

In the second series of experiments the effects of injections of the above substances on infected animals were investigated. Perchloride of mercury, however, was not tried, as former observers have reported very unfavourably on its action. Owing to its toxicity the mixture of chinosol and formic aldehyde was likewise omitted. The anthrax for inoculation was prepared as follows. The blood of a guinea-pig recently dead from the disease was planted on an agar tube and incubated for 24 hours at 37° C. The purity of the cultivation having been established by microscopical examination a small platinum loop holding about 0·3 milligramme was filled with the growth and transferred to 10 cubic centimetres of broth for 16 hours at 37° C. No spores were detected in this growth. Six rabbits were then inoculated intraperitoneally with 0·5 cubic centimetre of the cultivation, which had been diluted with an equal volume of sterile broth and well shaken up so as to form a homogeneous emulsion. The drugs selected were then injected into five of the rabbits in the following proportions: oxycyanide of mercury, 0·00005 gramme per 100 grammes body-weight; formic aldehyde, 0·0007 gramme per 100 grammes body-weight; chinosol, 0·001 gramme per 100 grammes body-weight; protargol, 0·0004 gramme per 100 grammes body-weight; and sodium taurocholate, 0·00006 gramme per 100 grammes body-weight. These injections were repeated every 24 hours, those of chinosol and protargol, however, being reduced to one-half the original proportion after the first dose. The oxycyanide, formic aldehyde, and chinosol rabbits were found dead on the fifth day. The rest, including the control animal, survived. Post-mortem examination, which included opening the thorax and abdomen under full aseptic precautions and the making of cover-slip preparations and agar cultivations from the blood of the heart and spleen, showed that all the animals died from anthrax septicæmia. The three remaining rabbits on the eighth day after the first inoculation were re-inoculated with a dose of anthrax prepared in the same way as the first, only of twice the strength, the broth cultivation not being diluted. Protargol and taurocholate of sodium were injected in the same proportions as before. The taurocholate rabbit lived three days, the control rabbit four days, and the protargol rabbit four and a half days after the second injection. The post-mortem methods and results were the same as in the first three cases.

Another series of six rabbits was then inoculated with the stronger dose of anthrax emulsion in the same manner as on former occasions. Five of them were injected daily in the following proportions: oxycyanide of mercury, 0·00005 gramme per 100 grammes body-weight; formic aldehyde, 0·001 gramme per 100 grammes body-weight; chinosol, 0·0005 gramme per 100 grammes body-weight; protargol, 0·0003 gramme per 100 grammes body-weight; and sodium taurocholate, 0·00005 gramme per 100 grammes body-weight. The injections were repeated daily till the death of the animals, which occurred in the following order: oxycyanide of mercury and sodium taurocholate, died after two and a half days; protargol, died after three days; formic aldehyde and control died after three and a half days; and chinosol, died after four days. Post-mortem results showed that all animals died from anthrax. In no case was there any evidence of an inhibitory action on the part of the antiseptic.

As in the case of formic aldehyde and chinosol a sufficient dose could be administered to obtain what *in vitro* would be an antiseptic action, a further experiment was tried with these substances, the organism chosen being the pneumococcus owing to its more feeble resistance to bactericides. This organism was grown from a virulent strain on standardised blood-agar tubes, one loopful (0·3 milligramme) being diluted 100,000 times in sterile broth and 1 cubic centimetre of the emulsion injected subcutaneously. The dose, therefore, was 0·00001 loopful. The proportion of the antiseptics injected was: formic aldehyde, 0·0021 gramme per 100 grammes body-weight; chinosol, 0·003 gramme per 100 grammes body-weight; and the dose administered three times during the first day. On the second day two doses were given of formic aldehyde, 0·0025 gramme per 100 grammes body-weight, and chinosol, 0·0035 gramme per 100 grammes body-weight. On the third day the formic aldehyde rabbit received 0·0029 gramme per 100 grammes body-weight twice and the chinosol rabbit 0·0044 gramme, the latter animal dying a few hours later. The former animal died during the next 24 hours. The control died on the sixth day. Paralysis was observed after each chinosol injection. The post-mortem results were positive.

From these experiments the following conclusions may be drawn: (1) that rabbits injected daily with non-toxic doses of oxycyanide of mercury, formic aldehyde, chinosol, protargol, or taurocholate of sodium are not thereby protected from the usual effects of a previous inoculation of virulent anthrax; and (2) that chinosol and formic aldehyde in large doses (toxic) so depress rabbits infected with the pneumococcus that they die sooner than an untreated animal.

Generally, then, it may be said that at present there is no experimental evidence which would warrant the assumption that the course of a septicæmia in animals can be influenced favourably by the intravenous injection of antiseptic substances, and that the only result to be obtained by pressing such a treatment beyond the maximum non-toxic dose is to hasten the death of the animal. In view of the results described in this paper and those obtained by former investigators it seems useless to continue trying to apply clinically a method which, while by no means free from special dangers and difficulties, is at present unsupported by any experimental evidence either as to its present advantages or future prospects.

Clifton, Bristol.

[15] Centralblatt für Bacteriologie Zweite Abtheilung, 1897, Band iii., p. 65.

[16] Deutsche Medicinische Wochenschrift, Band xxiii., p. 82, T. 1897.

A CASE OF HYPERTROPHIC STENOSIS OF THE PYLORUS IN AN INFANT; RECOVERY WITHOUT OPERATION.

BY H. WILLOUGHBY GARDNER, M.D. LOND., M.R.C.S. ENG., L.R.C.P. LOND.,
PHYSICIAN TO THE SALOP INFIRMARY, ETC.

IN connexion with the paper on this subject which was recently brought before the Royal Medical and Chirurgical Society by Dr. E. Cautley and Mr. C. T. Dent, and the discussion which ensued,[1] the following case, which occurred in my private practice, seems to be of interest.

The patient, a healthy male and a first child, was born on Jan. 30th, 1902. He weighed at birth 8 pounds 8 ounces. He was brought up until the illness commenced entirely by the breast and was in perfect health until March 20th, when he began to suffer from diarrhœa. At that time his weight was 11 pounds 8 ounces. It was then found that the mother, too, was out of health, and her milk was noticed to be very thin. Some three weeks previously the nurse had left and since that time it was thought that the mother had been doing too much. Notwithstanding treatment both for mother and child the diarrhœa persisted and on March 30th vomiting commenced. On about April 10th, as the child had been gradually getting worse, he was finally taken from the breast and various kinds of food were tried—viz., a malted proprietary food, bread jelly, unsweetened condensed milk, and peptonised milk, all diluted to varying degrees. All, however, caused more or less vomiting, usually about half an hour after they had been taken, except in the case of the bread jelly, which, though prepared with the utmost care, was generally returned at once. The child at first steadily, and then rapidly, lost weight. On April 24th his weight was 9 pounds 12 ounces and a note was made that he had lost nine ounces in the last five days. All food was then stopped except whey. With the increase of the sickness the diarrhœa had ceased and the bowels had become constipated, the scanty motions being green and slimy and very offensive. On the 26th the child was apparently sinking. He was then ordered to be fed with a teaspoonful of whey every 20 minutes. It was found that brandy in any form and even in the smallest quantities was immediately vomited. About this time visible peristalsis of the stomach was first noticed. The cardiac end of the stomach would form into a ball almost of the size of a small Tangerine orange and this ball would pass as a wave obliquely across from left to right and slightly downwards until it reached the site of the pyloric orifice where it would stop and, as it were, melt away. This recurred in quick succession and could generally be perceived whenever the abdomen was laid bare, or if not it could always be provoked by the application of a cold hand or by any slight stimulation.

On April 29th I asked my surgical colleague, Mr. L. J. Godson, to see the child with me. He discovered on deep palpation a somewhat soft, ill-defined, rounded swelling which was situated behind the left rectus in the region of the pylorus and seemed rather smaller than a pigeon's egg. This tumour was often afterwards searched for and could generally, but by no means always, be felt. The vomiting was at this time less owing to the extremely careful feeding, but the child was still losing weight. The question of operation was therefore considered and it was put to the parents that an operation might be the only means of saving the child's life. It was not, however, strongly urged, partly because we were ignorant as to the pathology of the condition and as to the significance of the tumour which we felt, and partly because we did not then know that any such operation had ever been performed with success. (An exploratory operation with the possibility of gastro-enterostomy was what was in our minds.) The parents however, decided to wait a little longer and very gradually the child began to improve. The lowest weight recorded was 9 pounds 5 ounces on May 4th. From that time the vomiting, though still very troublesome and occasionally severe, gradually became less frequent. The bowels for a long time remained obstinately constipated and had to be relieved by olive oil enemata. Whey was for a long time ordered as the principal diet; a little malt was soon added, dissolved in the whey; then barley water and maltine were given occasionally as a change. Gradually a little raw meat juice, or sometimes a little white of egg, was cautiously added to the food and the quantity was gradually increased from one to two, three, and four teaspoonfuls at a time, the interval between the feeds being prolonged. Later a few drops of cod liver oil or of cream were sometimes added and a little grape juice, but for a long time care was taken not to give anything that could possibly leave any residue. The addition of a little milk to the food was tried but it was found not to suit. The sickness gradually abated and the child slowly regained weight until about the beginning of June when he caught a severe cold and developed a troublesome cough. He then rapidly lost weight again, falling in a week from 9 pounds 8½ ounces to 9 pounds 2 ounces—the lowest weight registered during the whole of his illness. Curiously enough, however, when the cough and cold commenced the vomiting ceased and diarrhœa appeared in place of constipation. When he recovered from the cold he rapidly increased in weight and he was never again troubled with sickness. On June 22nd it was no longer considered necessary for anyone to sit up with him at night. Since the middle of August he has never had a bad symptom of any kind. Early in October he was successfully vaccinated. He is now a healthy looking child, plump and firm of flesh, the only point against him being that he has as yet cut no teeth. When last weighed at the age of 10½ months he scaled 20 pounds—two and a half pounds above the average.

This case appears to present all the characteristics of those described by Dr. Cautley and Mr. Dent under the name of "congenital hypertrophic stenosis of the pylorus"—viz., (1) the obstinate vomiting; (2) the constipation; (3) the wasting; (4) the visible peristalsis of the stomach; and (5) the presence of an ill-defined tumour in the region of the pylorus. As to whether the stomach was dilated or not I cannot say, not being sufficiently familiar with the normal size of an infant's stomach; it certainly was not greatly dilated, but it was noticeable that sometimes when the child had not been sick for some hours he would suddenly, to the despair of his mother and his nurse, bring up seemingly all the food he had taken during that time, just as an adult often does when suffering from a dilated stomach.

The noteworthy points about the case appear to be the following:—1. There seems no possible doubt that the affection was not congenital. Not only was the child at birth two pounds above the average weight (8 pounds 8 ounces as against 6 pounds 8 ounces, the average), but at the age of seven weeks, when the illness commenced, he had reached 11 pounds 8 ounces—three pounds above the average, which is given as eight pounds; or, to put it in another way, he had during those seven weeks gained three pounds in weight, the average gain during that time being given as 1 pound 12 ounces. There could hardly, therefore, during those first seven weeks of his life have been anything wrong with his digestive apparatus.

2. The disease seems to have been caused at first by there being something wrong with the mother's milk, owing to the mother herself getting out of health. It would seem as if the milk as it became thin and poor gained at the same time some irritating quality. The first effect of this was the diarrhœa, which had lasted some ten days before the vomiting commenced; then came the spasm of the pyloric orifice, probably at the same time as the vomiting. It would almost seem as if the pylorus was trying to shut out the noxious milk and to prevent it entering the bowel. One supposes that the spasm thus induced caused after a time hypertrophy of the muscular coat of the pylorus, and so produced the thickening which could be afterwards felt as a tumour. This muscular hypertrophy and probably also an irritable condition of the mucous membrane causing ready spasm would, in their turn, be the cause of the increased peristalsis and the vomiting, and so the trouble would persist even after the food had been changed.

3. The fact that improvement only commenced when everything that could possibly have left any undigested residue had been discontinued as food and when only very small quantities at a time were given. The pyloric sphincter would then get almost perfect rest.

4. The curious fact that what completed the recovery was the cold and the cough which accompanied it, though the child himself was greatly reduced in weight and strength thereby. It occurs to me that the cough must have forced

[1] THE LANCET, Dec. 20th, 1902, pp. 1679 and 1693.

the food through the pyloric sphincter, thus acting as a dilating agent. Perhaps the "cold," too, helped by causing general relaxation of muscular tone.

5. The ultimate recovery of the child without any operation, although the case seemed at one time well-nigh hopeless. Indeed, I was sent for one night because the nurse thought that the child was dying. The recovery also was complete; the child regained his strength and vigour; no trace can now be found of any dilatation of the stomach, of any difficulty in the passage of food from the stomach into the pylorus, or of any thickening of the latter organ.

Shrewsbury.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Bullet Wounds of the Intestines.—Tuberculosis of the Œsophagus.—A Case of Congenital Tuberculosis.—Two Cases of Congenital Heart Disease.—Cholesteatoma of the Pineal Body.

A MEETING of this society was held on Jan. 6th, Mr. R. J. GODLEE, the Vice-President, being in the chair.

Mr. G. LENTHAL CHEATLE showed the Lesions in a case of Bullet Injury to the Abdomen. The wound was inflicted by a Jeffrey's modification of the Mauser bullet. It had passed through the cæcum, left the small intestine practically uninjured, and then caused the man's death by inflicting large wounds in the sigmoid flexure from which extravasation of fæces occurred. The bullet remained impacted in the skin wound of exit. The wounds of the cæcum were quite free from extravasation and there was practically no pericæcal peritonitis. Microscopical sections of the wounds of penetration and emergence demonstrated that extravasation was prevented by the valvular condition of the opening made by the bullet and induced by the different degree of elasticity possessed by the various tissues forming the different parts of the intestinal wall. The most important factor in bringing about this result was probably the muscular coat. The sections clearly showed that prolapse of the mucous membrane could not have had any share in preventing extravasation. Incidentally Mr. Cheatle pointed out that skin wounds of exit usually showed, at any rate microscopically, extrusion of adipose tissue between the epithelial margins. He showed that the tissue might contain sweat glands in its extruded meshes and also that skin wounds of exit have a larger subcutaneous hæmorrhage than those of entrance. This case showed: (1) that a bullet of low velocity was capable of inflicting as insignificant an injury as one of high velocity; (2) that a bullet might traverse the region occupied by the small intestines without perforating them; (3) that an expanding bullet need not, and he believed did not, expand when it came in contact with soft parts; (4) that the absence of extravasation in small-bore bullet wounds of the intestines was prevented not by prolapse or extrusion of mucous membrane, but by the valvular form of the tissue assumed by the track of the bullet; and (5) that the best, and often the only, means of deciding upon the direction in which the bullet travelled was by making careful microscopical sections of all the tissues struck. This point, Mr. Cheatle said, might be of considerable importance in medico-legal questions.—Mr. S. G. SHATTOCK said that he had had the opportunity of examining one bullet wound at the site of entrance and had been able to find hardly any evidence of injury; the tissue was but little displaced and there was no necrosis.—Dr. PURVES STEWART asked whether Mr. Cheatle could give any explanation why the bullet came into the exit wound with the hind end foremost. He said he had seen one case in which the bullet had entered the skull in the frontal region and had been found in the occipital region of the brain with the nose of the bullet pointing in the direction of the entrance wound. In this case the position was to be explained by the rebound from the inner wall of the skull, but such an explanation would not serve in Mr. Cheatle's case.—Mr. CHEATLE, in reply, said that it was probable that the bullet had a low velocity at its time of entrance and that it revolved on its long axis and therefore came to lie with its hind end outwards.

Dr. W. T. MULLINGS and Dr. F. C. SHRUBSALL showed a specimen of Tuberculosis of the Œsophagus. This condition seemed to be very rare, since no case had been described in the British Isles. The specimen was from a man, aged 50 years, who was admitted to the Brompton Hospital under the care of Dr. T. D. Acland suffering from hydro-pneumothorax. During life the only evidence of œsophageal lesion was dysphagia which came on suddenly a few days before death; the pain on deglutition was considerable and was only relieved by *swallowing* a solution of cocaine. There was no evidence of pharyngeal ulceration, though early tuberculosis of the larynx was discovered. At the necropsy tuberculous lesions were found in the lungs, intestines, right testicle, trachea, and great bronchi. The bronchial and mediastinal glands showed no macroscopic evidences of tubercle. The extreme upper portion of the œsophagus was not examined. The middle portion showed extensive ulceration over a length of three and a half inches, the individual ulcers being oval with their long axis in the long axis of the tube. Below this there were a few scattered ulcers. Microscopically typical tubercles with giant cells and tubercle bacilli were demonstrated. The case was one either of extension from the pharynx or a local infection through the sputum, the evidence being more in favour of the latter cause.—Dr. P. HORTON-SMITH said that he considered that the condition was extremely rare. In some 200 necropsies which he had performed on tuberculous subjects he had never met with ulceration of the œsophagus, and in some 2500 necropsies performed by Dr. S. H. Habershon the condition had been met with on only two occasions.

Dr. F. W. ANDREWES showed three rare specimens which he had recently investigated from amongst the contents of the museum of St. Bartholomew's Hospital and which had hitherto not been adequately described. The first was an apparently authentic example of congenital tuberculosis in man. The specimen consisted of the thoracic viscera of an infant stated to have died shortly after birth—a statement confirmed by the size of the organs and by the fact that the ductus arteriosus was still pervious. The tracheal and bronchial glands were much enlarged and caseous and the lungs contained numerous miliary tubercles. The histological appearances were characteristic of tubercle. The glandular lesions must evidently have arisen long before birth and it was suggested that infection might have occurred per os by the swallowing of amniotic fluid. The other two specimens were instances of rare forms of congenital malformation of the heart. In one there was complete absence of the right auriculo-ventricular orifice, with a double orifice on the left side, the right ventricle being rudimentary, the foramen ovale widely patent, the inter ventricular septum perforated by a small aperture, and the ductus arteriosus practically closed. The two orifices connecting the left auricle and ventricle were provided with separate and well-formed valve curtains and chordæ tendineæ. The possible origin of this rare abnormality was discussed. In the second case there existed a thick muscular septum dividing the proper cavity of the right ventricle from that of the conus arteriosus, perforated only by a minute aperture admitting a good-sized probe. This form of pulmonary stenosis was evidently a true developmental anomaly and not due to fœtal endocarditis.

Dr. H. M. FLETCHER showed a Cholesteatoma of the Brain from a youth, aged 19 years, who while lifting a parcel on to a van suddenly became unconscious and died 36 hours later in St. Bartholomew's Hospital. The tumour, which was of the size of a small walnut, was situated in or beneath the velum interpositum, behind and compressing the pineal gland. It was hard and had a pearly lustre. It consisted of a dense fibrous-looking outer portion with a soft granular core. The lining epithelium was of the stratified squamous variety with a well-marked corneous layer, forming concentric laminæ with abundant cholesterine crystals. In the majority of cases described the tumour had been found at the base of the brain. Cholesteatoma was usually regarded as a proliferation of the endothelial cells lining the subarachnoid trabeculæ, but Dr. Fletcher was inclined to look upon it as allied to dermoid cysts in origin.—Dr. F. J. POYNTON said that he had seen one case of cholesteatoma in which there were two tumours, one considerably larger than the other, situated symmetrically at the base of the brain between the pons and the cerebellum. He called attention to the suddenness with which coma and other symptoms developed in cases of simple tumour of the brain—

Dr. F. E. BATTEN said that he believed the sudden onset of symptoms in cases of non-malignant tumour of the brain was often due to the rapid increase of intra-ventricular pressure owing to the occlusion of the iter.—Dr. C. OGLE said that a few years ago he had shown two specimens of tumours of the pineal gland. In both these cases the prominent symptom had been continual drowsiness; in one case the boy slept for several weeks. He attributed this drowsiness to the fact that fluid tended to increase in the ventricles. He pointed out that the other symptoms connected with tumours in this position were total blindness, dilatation of the pupil, and an absence of reaction of the pupil to light. He stated that in more than one of these cases it had been noted that there was an unusual development of the genital organs.—Mr. GODLEE referred to the case of a man who had a melanotic sarcoma of the brain; whilst in hospital the man obtained a considerable quantity of whisky, which he drank, and rapidly passed into a state of coma and died. He thought that the disturbance of the vascular supply of the brain was the cause of the acute symptoms in the case and that in all probability the onset of acute symptoms in other cases of tumour of the brain had a similar explanation.—Dr. FLETCHER, in reply, said that he thought that the rapid onset of symptoms was due to a vascular disturbance, and in the case recorded extreme drowsiness had been a marked symptom.

MANCHESTER MEDICAL SOCIETY.

Rheumatic Arthritis and other allied Joint Affections.—Exhibition of Case.

A MEETING of this society was held on Dec. 3rd, Dr. THOMAS HARRIS, the President, being in the chair.

Dr. J. DRESCHFELD opened a discussion on Rheumatic Arthritis and other allied Joint Affections and their treatment. He pointed out that the subject naturally divided itself into acute and chronic joint affections. Of the acute variety the first place was occupied by acute rheumatic arthritis. Recent observations had thrown considerable light on the etiology of this affection, though a good deal still remained obscure. Most pathologists and clinicians were now agreed that it was an infectious disease, but the question whether it was due to a pathogenic micro-organism, or whether more than one micro-organism might give rise to the same symptom-complex, or whether it was due to a non-specific micro-organism which only under certain hereditary or predisposing conditions became active, was still a disputed point. Recent observers had looked upon the tonsils as the portals of entrance of the micro organism causing acute rheumatic arthritis, and the observations of E Meyer, Wassermann, and more recently of Paine and Poynton and Menzer had shown the presence of a streptococcus in the form of a diplococcus in the tonsils of patients affected with acute rheumatic arthritis, which could be cultivated and when injected into rabbits produced lesions such as they saw in rheumatic fever. As yet, however, one could not look upon these diplococci as the pathogenic organism of acute articular rheumatism as pointed out by Menzer,[1] for other micro organisms had produced the same results; the diplococci described by the various observers showed marked morphological differences and diplococci found in the healthy tonsils and in the tonsils affected with angina and other affections had occasionally, when injected into animals, produced similar lesions, though it must be observed that Widal and Besançon in a very large series of experiments obtained mostly negative results. It must further be observed that in some cases the injection of the streptococci obtained from the tonsils produced at times septic and at other times pyæmic lesions. It would appear from these experimental data that though the exciting cause in acute rheumatic arthritis was a micro-organism, special favourable conditions depending on an inherited or some peculiar constitutional predisposition or some accidental causes (exposure to cold, to damp, &c.) played a prominent part in the causation of acute rheumatic arthritis and favoured the entrance of the micro-organism into the blood. The importance of these secondary causes should not be overlooked. The experimental researches on this subject had further shown that acute rheumatic arthritis, septic arthritis, and pyæmic or suppurative arthritis were more closely related than was at one time supposed and supported the clinical evidence, such, for example, as was shown in the relationship between rheumatic or papillary endocarditis and septic endocarditis. The treatment of acute rheumatic arthritis offered little scope for discussion. The salts of salicylic acid were given; they reduced the temperature, relieved the pain, caused a diminution of the swelling, and were said to increase the elimination of uric acid, but they did not shorten the duration of the disease, and did not prevent relapses, and unless alkalies in fairly large doses were given also endocarditis often occurred. Local treatment was essential. One form of acute arthritis was especially alluded to in which often the wrist and the ankle became affected and in which besides excessive pain there were a good deal of inflammatory subcutaneous œdema and inflammation of the sheaths of tendons. The disease was very obstinate to treatment and often left the joint ankylosed. Davies-Colley described this affection occurring in women affected with leucorrhœa. It was a septic arthritis, often due to gonorrhœa, but was occasionally found independently of gonorrhœa; in some rare cases most of the joints might become involved. Acute osteo-arthritis was no doubt a rare affection, but occasionally cases were seen in which there were marked pyrexia, profuse and acid perspiration, swelling and pain of the joints, and in which the joint, instead of returning to its normal condition, showed the appearance seen in osteo-arthritis. In the present state of their knowledge it was impossible to say whether there was a double infection or whether the disease was primarily one of osteo arthritis. The infective arthritis of fevers was next dealt with. Pneumonia, typhoid fever, scarlet fever, diphtheria, small-pox, influenza, and cerebro-spinal meningitis were sometimes accompanied or followed by an acute swelling and pain of one or more joints. The physician had to deal here with various affections: 1. A toxic affection, due to a toxin. Some doubted the existence of a toxic arthritis but that such an arthritis existed was shown by the arthritis sometimes following very soon after the injection of antitoxin serum in diphtheria. 2. An arthritis due to the pathogenic micro-organism, as in the cases of pneumococcal arthritis described by Cave and Nathan Raw and in some of the reported cases of arthritis in typhoid fever. 3. A mixed infection—the effusion into the joint, which might be serous or purulent (pyæmic), containing septic micro-organisms. 4. True rheumatic arthritis as a complication of the primary infective fever. Occasionally, as in typhoid fever, the vertebral column might be affected (typhoid spine), characterised by excessive pain and stiffness of the vertebral column, this, again, being sometimes a nervous affection and at other times a purely toxic affection; at other times there were distinct osteitis and periostei is. Gonorrhœal arthritis in its various types was alluded to. Occasionally the vertebral column was also affected. Dr. Dreschfeld next considered chronic affections, first describing chronic rheumatic arthritis. In most persons who had had acute rheumatic arthritis the joints assumed again their normal appearance; occasionally, however, the smaller joints formed a spindle-shaped swelling and remained so permanently; in a few cases with a marked family history of rheumatism the symptoms of rheumatic arthritis came on slowly and insidiously, the joints became stiff and painful, the muscles in the neighbourhood of the joints underwent atrophy, marked deformities of the hands and feet ensued, and the patient might become quite crippled. The distinction in such a case between rheumatic arthritis and rheumatoid arthritis was almost impossible. Such differences as had been pointed out by some observers were scarcely enough to differentiate them. He then referred to chronic rheumatoid or osteo-arthritis: a chronic disease in which one or more joints were affected with marked changes in the cartilage and bones of an atrophic or hypoplastic character and atrophy of muscles and resulting in marked deformity of the joint. Various affections had been classified under this head. 1. Heberden nodules. It was very doubtful whether this was osteo-arthritis. In some cases the affection was true gout, in others the lesion was a trophic one, due to overstrain and a general debilitated state of the system. Still described two cases in children who had congenital syphilis. 2. The general progressive osteo-arthritis. Most would agree with Garrod that more than one affection was included in this group. The older observations of Wohlmann, Baumtgen, and Baxall and the case described by Still pointed to its infectious nature; the more recent ones of

[1] Die Aetiologie des Acuten Gelenkrheumatismus. Berlin, 1902.

Cave showed that often it was of a septic nature, the infective agent reaching the system through the alimentary canal. 3. Arthritis deformans or monarticular arthritis. This, probably, was also microbic in origin, in which, however, trauma and a debilitated constitution played an important part. The various forms of spondylitis deformans and their relation to osteo-arthritis, gonorrhœal arthritis, and affections of the meninges were alluded to. In conclusion, Dr. Dreschfeld dealt with the treatment of chronic rheumatoid arthritis. —Professor G. A. WRIGHT spoke of the need for an entire revision of the nomenclature of joint diseases and the desirability of abolishing all names with rheumatism in them. He laid stress upon the frequency of specific joint diseases of various kinds, septic, exanthematous, and others. —Professor J. DIXON MANN, whilst fully admitting the micro-organismal causation of acute rheumatism, could not accept the view that streptococci which were capable of producing ordinary septicæmic conditions were the micro-organisms in question. The characteristic feature of acute rheumatism was that the fibrous structures in relation to the joints, the heart, and the lungs were attacked by a most active type of inflammation which led to effusion and to fibrinous exudation, but which systematically stopped short at that and rarely went on to the formation of pus. Whereas, when the system was invaded by micro-organisms of the type in question, the formation of pus, along with other characteristic manifestations of the septic state as ordinarily understood, were distinctive characteristics. On these grounds he doubted the efficacy of Menzer's serum obtained from animals that had been inoculated with cultivations of streptococci which had been scraped from the tonsils of patients in the early stage of acute rheumatism. Many cases that simulated acute rheumatism partook of a septic character and were probably of a mixed etiology.—Dr. A. T. WILKINSON considered acute rheumatism to be a definite disease due to a micro-organism in which, however, as in diphtheria, a mixed infection might occur. The mobility of the joint lesion was the strongest indication for the use of the salicylate. He agreed with Dr. Dreschfeld in preferring moderate doses and always prescribed with it tincture of nux vomica and citrate of potassium. In single rheumatic joint lesions and in the solitary gonococcal swellings, in which the disease took the joint on lease, small local blisters usually gave most relief. Dr. Wilkinson also referred to a case of acute herpes following the branches of the right anterior crural nerve in which changes resembling those seen in subacute osteo-arthritis developed in the knee-joint but gradually subsided in the course of six months.—Professor R. B. WILD considered that the name rheumatic arthritis covered a group of pathological conditions and that with their present knowledge an accurate differentiation of the members of the group was impossible. One member, however, acute rheumatism or rheumatic fever, appeared to be more sharply defined and differed in many ways from the others in its course. Among the points of difference attention was drawn to the type of the fever, and especially its comparatively slight depressing action on the central nervous system; secondly, the peculiar tendency of the arthritis to affect joint after joint and rapidly to disappear, the evanescent character of the arthritis in any one joint being comparable to the acute onset and rapid disappearance of the lesions of the skin in urticaria, a disease which was produced by absorption of toxic substances from the alimentary canal; and thirdly, the very slight anatomical lesions found in the inflamed joints when examined post mortem were worthy of note. With respect to treatment the salicyl compounds in full doses certainly relieved the symptoms and the probability of their having a specific action upon the rheumatic toxins was suggested by the fact that similar good effects were not produced by closely allied chemical compounds such as benzoic acid, pyrocatechin, or even the meta- and para-hydroxy-benzoic acids which were isomeric with salicylic acid.—Dr. C. W. BUCKLEY said that a damp subsoil was a most important factor in the production of rheumatoid arthritis and considered that a change of residence should be made if possible to a place with a dry soil and a bracing climate, or in default of this as long a stay as was possible should be made in a health resort of this type. Balneological treatment was of the utmost value when combined with such climatic factors. Of the many forms of electrical treatment now in vogue he had found the constant current bath to be by far the most useful.

Mr. W. THORBURN showed a case of Charcot's Joint Disease of the Knee developed after a slight injury and preceding other ataxic symptoms which had been treated by arthrodesis.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases and Specimens.—Squint.

A MEETING of this society was held on Dec. 18th, Mr. RUSHTON PARKER, the President, being in the chair.

Dr. K. A. GROSSMANN showed a case of Congenital Malformation of the Iris in both Eyes. The patient, a poorly developed boy, aged 14 years, was subject to nervous twitchings of the head and horizontal nystagmus. Microcornea was present in both eyes. The right iris was represented by a narrow band stretching across the base of the lower quadrant. In the left eye only the lower quadrant was missing. From the presence of chorio-retinitis, nasal bone changes, and the teeth, a diagnosis of specific intra-uterine uveitis was made. Dr. Grossmann also demonstrated a case of Peculiar Choroidal Traumatism.

Mr. F. T. PAUL showed a gardener, aged 59 years, whose Rihgt Subclavian Artery he had Ligatured in the Second Part for an Aneurysm of the Axillary Artery extending up to, and involving, the third part of the subclavian. The patient had suffered from syphilis and had been subjected to local strain of the artery. There was evidence of extensive end-arteritis and the vessel when ligatured was considerably diseased. Catgut sterilised in xylol was used and was not drawn tight. The wound healed by first intention; the aneurysm filled with firm clot and was now, two months after operation, shrinking satisfactorily.—Sir WILLIAM H. BANKS had seen three cases of traumatic axillary aneurysm—a disease of by no means frequent occurrence. The first case occurred in a sail-maker and distinctly followed a strain, but the vessel might quite well have been atheromatous. Two years after successful ligature of the subclavian artery it was impossible to know that there had been any aneurysm. In the second case degeneration of the artery was unlikely, as the patient was a young healthy man, the condition being due to a railway crush. The aneurysm had spread into the neck and was as much subclavian as axillary. With the aid of his colleague, Mr. Paul, Sir William Banks made a strenuous attempt to ligature the first part of the left subclavian artery in the thorax; the pleura was a good deal injured and the patient died from pleurisy. In the third case the aneurysm resulted from injury produced by an attempt to reduce a dislocated shoulder. At the operation in which he assisted Dr. Nathan Raw the pectorals were divided and a temporary ligature was placed at the highest point of the axillary artery, the aneurysmal sac was opened, and the vessel was tied above and below. Complete recovery followed.—Dr. E. MOLYNEUX had discovered the aneurysm in the case brought forward by Mr. Paul quite casually. It had caused no discomfort whatever. The patient had for years suffered from gout and he thought that the gouty diathesis had more to do with the case than had syphilis.—The PRESIDENT had seen three cases and in all a traumatic factor was present.—Dr. PUTNAM also spoke and Mr. PAUL replied.

Dr. B. F. P. MACDONALD described a case of Multiple Rodent Ulcer. There was no history of syphilis in the patient, a woman, aged 45 years, or of cancer in the family. The ulcers were seven in number, situated over the left mamma, the sternum, and above the left clavicle. The condition had existed untreated for two years. He had been unable to trace a record of any similar case. The patient showed all stages, from the initial node to the final typical crater-like ulcer. The diagnosis of rodent ulcer was based on (1) the slow growth; (2) the good health of the patient; (3) the marked tendency to heal; (4) the non-implication of the axillary glands; and (5) the evidence of the microscopical sections prepared by Dr. W. Anderson and others.—Mr. PAUL said that the histological characters were those of glandular carcinoma, and if it was certain that the disease had originated in the skin they might have been consistent with the appearances presented by some varieties of rodent ulcer. On seeing the patient, however, he had no hesitation in deciding that it was a rare form of ulcerating cancer of the breast.—Sir WILLIAM BANKS and Dr. ANDERSON spoke and Dr. MACDONALD replied.

Mr. EDGAR A. BROWNE read a paper on Squint in the course of which he said that in the history of squint there

were two eras—the era of Diffenbach who with his followers recognised the obvious misplacement of the eye in relation to the palpebral aperture and remedied the deformity by cutting the (supposed) offending muscle. Subsequent improvements in technique had rendered it possible for anyone with a moderate degree of skill in ophthalmic surgery to turn an eye in any desired direction. Indeed, so successful in appearance were operations on the muscle that squint was regarded as a muscular affection and innovations in treatment were regarded with suspicion. There was no probability that operations for squint would be discarded in any reasonable length of time—indeed, they must always remain useful in neglected cases—but they were purely empirical proceedings and were sure to give way before a rational knowledge of causation. The era of Donders was that of the slow coördination of exact observation of actual facts and their relative importance that constitutes science. Donders's "theory" was often spoken of, as other "theories" were, as if it were something outside the range of practice. From Donders would proceed the rational treatment of the future. He bequeathed two legacies, one a generalisation that hypermetropic eyes squinted towards the mesial line and that myopic eyes squinted out. This remained true and the measurements afforded by the Maddox rod of small degrees of latent squint (or heterophoria) tended to show that the rule had a wide application. But his explanation of why hypermetropic eyes squint was probably only partially true. But Donders effectually drew attention to the optical nature of squint. The muscles were not at fault. Their contraction was due to their motor centres causing them to perform their natural functions and they had to search for the cause that set the centres in action. Squint was not a disease. Its onset was regular, always at the same period of life, always on the same lines and in the same stages. It was an accident of development. The stages were (1) potentiality—a period when every child whose ocular development was not proceeding regularly might pass into (2) periodicity—when squint took place invariably under excitement or strong desire to see; (3) habitual, when fixation with one eye only was the rule, but when parallelism was likely to be restored in sleep, under chloroform, &c.—from this two different developments might occur: (4) a secondary periodic stage not mentioned in books, ending in recovery; or (5) a stage of permanent deformity involving distortions of the capsule of Tenon, &c., and demanding operation for cosmetic considerations. Attention had been too strongly fixed on convergence as the essential phenomenon of squint, but it was the last link in the chain of events. An intimate relationship was found to exist between amblyopia and squint. The hypermetropic eye was an incomplete eye and its nervous elements might in certain cases be reasonably supposed to be that of a slow development. The sense of vision required practice as well as natural endowment, and if from high hypermetropia or astigmatism one eye was more deficient in clearly formed images than the other, it was likely to lose its instinctive desire for sharp focussing and to become poorly developed from want of exercise, like any other function. There was no sense of diplopia when there was a clear image in one eye and a blurred image in the other. Hypermetropia was not *the* cause of squint but exhibited the most favourable conditions, especially in the matter of exercising the muscles of convergence. Therefore squint might equally occur in young myopic eyes before the internal recti had lost their preponderating power if the other conditions were fulfilled. Squint, therefore, was a failure in a peripheral sense organ to acquire its complete function, leading to independent and uncontrolled action of the motor centres of the internal (and, in fact, superior) recti. Initially nothing took place but what was natural, but in later stages deformities and secondary changes became developed. Treatment had for its objects restoration of desire for (1) distinct vision; (2) binocular vision; and (3) diminution of accommodation effort. Directions for attaining these objects were given. The obstacles to success were numerous and difficult to overcome. Prevention of squint could hardly be expected till the general practitioner coöperated with the specialist and superintended the treatment in the homes and supervised the ocular hygiene of children in schools.—Mr. R. J. HAMILTON urged the earliest discovery of, and therefore treatment of children with, an unusual degree of hypermetropia. Full correction by glasses and operation at an early age were recommended. Stereoscopic exercises, though scientifically sound, could not in practice be carried out.—Dr. GROSSMANN said that there was not the slightest doubt that Donders's explanation was perfectly correct for some cases, but for some only. Hypermetropia existed, it was true, in the majority of cases of squint, but also in the majority of non-squinting eyes. Squint also occurred in myopia (converging concomitant squint). Vision was developed after birth and thereupon depended the importance of the educational treatment. The relationship between accommodation and convergence was completely an acquired one in man, so also was binocular fixation. The treatment of convergent squint should be threefold—by glasses, by educational methods, and by operation.—Mr. RICHARD WILLIAMS could only accept Donders's theory of the causation of squint in a very partial degree. To him squint was essentially the result of deranged nerve impulses and hypermetropia played only a minor part. As to the educative treatment, he thought that the result was nothing like commensurate with the trouble involved and patients were mainly interested in getting their eyes "put straight."—Dr. EDGAR STEVENSON said that he first became acquainted with Mr. Browne's ideas when he was his house surgeon and he regarded them as heterodox. But he had lately had an opportunity of studying this subject and had been struck especially by the practical results attained. He instanced the case of a girl, aged 15 years, in whom treatment had been begun at the age of 11 months and in whom the cosmetic results were perfect. He was convinced that the views were in the main correct and that the treatment was the most advantageous to the patient, however tedious and difficult it might seem.—Mr. HUGH E. JONES, Mr. C. H. B. SHEARS, Dr. J. J. O'HAGAN, Mr. T. H. BICKERTON, and Dr. J. H. ABRAM also spoke, and Mr. BROWNE replied.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

Exhibition of Cases and Specimens.

A SPECIAL clinical meeting of this society was held on Dec. 7th, Dr. W. CRAIG, the Vice-President, being in the chair.

Dr. D. CHALMERS WATSON exhibited several patients to show the Results of Treatment by a Preparation of Bone Marrow. Two children suffering from ichthyosis simplex were shown on whom the treatment had just been commenced. Another was a case of severe generalised eczema in a man, a plasterer by trade, who after five or six weeks of this local treatment had been cured. Two cases of impetigo had benefited by the bone marrow and a case of widespread psoriasis of 20 years' duration in a man was giving fairly satisfactory results though slow in comparison with the other cases shown. Dr. Watson enunciated two theories in explanation of the beneficial results of the local application of bone marrow.

Dr. H. ALEXIS THOMSON demonstrated two cases of Chronic Gastric Ulcer with Pyloric Obstruction treated by Gastro-enterostomy. The younger patient, a male, aged 23 years, had suffered from gastric troubles for about two and a half years. The other patient was a man, aged 53 years, who had shown gastric symptoms for 10 years. Severe hæmatemesis had occurred, with signs of pyloric obstruction and cumulative vomiting every second day. Both patients had increased in weight to a great degree since the operation.

Dr. BYROM BRAMWELL exhibited a case of Tabes in a man aged 50 years. The patient first came under observation in April, 1901, and had then symptoms of pre-ataxic tabes. He had contracted syphilis 18 years previously and suffered from lightning pains and diplopia. The gastric crises at this time were very severe and rectal feeding had to be carried out. He again presented himself in October, 1902, when he was reduced to a skeleton; the crises had occurred every second day during the preceding six months. He had lost 3 stones 2 pounds within four months and on Nov. 7th weighed only 7 stones 9½ pounds. The patient had been subjected to x-ray treatment applied to the dorsal part of the spine for five minutes each day. This treatment had resulted in an extraordinary improvement. The crises had practically disappeared and in one week he gained 10½ pounds. He had gained 2 stones 4½ pounds since Nov. 7th. At the present time he partook of ordinary hospital diet. How much the improvement might be due to merely psychical effects it was impossible to say.

Mr. HAROLD J. STILES showed the following cases:—1. A boy, aged eight years, after Operation for Hydatid Cyst of the Liver. The patient lived in Shetland and had been recommended by Mr. Watson Cheyne who had diagnosed the case. The abdomen was opened by a vertical incision three inches in length midway between the edges of the right rectus. On palpating the liver it was found to contain a large cyst. The surface of the liver was then stitched in a circle to the parietal peritoneum and posterior layer of the rectal sheath by a series of looped sutures. Inside these a continuous circular suture was applied, so as to unite the surface of the liver to the cut edge of the peritoneum. In this way an area of the anterior surface of the liver measuring two inches by one and a half inches was completely shut off from the general peritoneal cavity. The wound was stuffed with iodoform gauze. A week later the stuffing was removed and the cyst was opened. A large quantity of clear fluid escaped, and on introducing the finger the cyst was found to be of the size of a child's head. After all the fluid had been evacuated the cyst wall partly detached itself spontaneously and was removed. A long empyema-tube was employed to drain the cavity. On the evening of the operation a rash somewhat resembling measles appeared all over the body, as happens frequently after the aspiration of a hydatid cyst. This rash lasted for ten days. The discharge was at first copious and consisted of blood-stained mucus. Later the mucus was deeply stained with bile and gradually diminished in amount until the tube was removed in the fifth week after the second operation. 2. A girl, after Operation for Congenital Urinary Umbilical Fistula. The parents were first cousins and one of the other children had supernumerary digits. A sound introduced per urethram could be passed to within an inch of the umbilicus and there rotated from side to side. There was evidently a fusiform extension of the bladder upwards almost to the umbilicus rather than a mere patency of the urachus. The operation consisted in making a mesial incision three inches in length commencing just below the umbilicus. An attempt was made to strip the peritoneum from the posterior surface of the upper part of the bladder, but it was found that the serous membrane was too thin and adherent to allow of this being done. The abdomen was then opened and the upper part of the bladder was drawn well out of the wound. Two intestinal clamp forceps were then applied to the bladder, the one below the umbilicus and the second fully an inch lower down. The intervening portion was then cut across just below the upper clamp. Both ends of the divided bladder were then closed with a double row of silk sutures, the mucous membrane not being included. The clamps were found of great service in checking bleeding and in keeping the parts in good position. After removing them the edges of the parietal peritoneum were so united as to retain the sutured stump of the bladder as far as possible outside the peritoneal cavity. The abdominal wound was closed and a strip of iodoform gauze from the sutured bladder was left protruding. A self-retaining catheter was kept in the bladder for a fortnight and the recovery was uninterrupted. Mr. Stiles brought the case before the society on account of its rarity and the infrequency of operation in such cases. 3. A girl, aged three years, after Intestinal Anastomosis for Stricture of the Lower End of the Ileum due to tuberculous disease of the ileo-cæcal region. The symptoms had been weakness, enlargement of the abdomen, diarrhœa, vomiting, and "noise in the child's abdomen." Resection in so delicate a child was deemed inadvisable. The only other alternative was to short-circuit the ileo-cæcal region by establishing a lateral anastomosis between the ileum and the ascending colon. This was done and the child made an uneventful recovery. Subcutaneous saline infusions were given twice daily for the first three days and seemed of much service in improving the pulse and preventing thirst. Twelve weeks after the operation the child had improved greatly in her general health. Vomiting and diarrhœa had ceased, the tumidity of the abdomen had gone, and there was no exaggerated peristalsis. The enlargement of glands had also disappeared, no doubt due to the rest given to the diseased bowel by the short-circuiting.

Mr. F. M. CAIRD exhibited a young man who had received a Bullet Wound on Oct. 24th, 1901. The entrance wound was situated three inches below the right anterior iliac spine. His early symptoms were frequency of micturition and hæmaturia. His bladder was carefully sounded but no bullet was discovered. In the hospital at Netley an x-ray photograph was taken and showed the bullet *in situ* in the pelvis. On admission to the Edinburgh Royal Infirmary he suffered from dysuria and tenderness of the right testicle. He found that the process of defecation was easiest while in the reclining position as compared with sitting or squatting. When under an anæsthetic the bullet could be felt neither digitally nor by the sound. The abdomen was opened and low down in the recto-vesical pouch the bullet was felt and seen to be covered with glistening peritoneum. It was removed and was found to be crusted over with phosphates, showing that it had been partly in the bladder. A good deal of difficulty was experienced in suturing the wound so low down. After a somewhat complicated convalescence the patient was now well.

Dr. W. ALLAN JAMIESON showed a case of Xeroderma Pigmentosum after treatment by the x rays. The patient was a little girl, the younger of two children. Both suffered from xeroderma. The child began to develop freckles at the side of the nose when about a twelvemonth old. Later telangiectasis and whitish spots began to develop on the face. The disease had now extended to the hands and wrists. There were no other signs of disease. When seen on Oct. 1st there was an epitheliomatous growth on the tip of the nose of about the size of a sixpence and numerous warty growths were scattered over the face. Treatment by the x rays was then commenced, and up to the present the patient had had 34 exposures of five minutes each applied to the face and 13 exposures to the right hand. The epitheliomatous growth on the nose and all the warts on the face had disappeared under the action of the rays. An x-ray dermatitis was produced; the nose was now whiter than the rest of the face and there was a marked improvement of the right as compared with the left hand. Such a case demonstrated (Dr. Jamieson said) that the x rays were not the ordinary actinic rays of the spectrum, for the latter tended to increase pigmentation in the skin.

Dr. T. F. S. CAVERHILL exhibited several tuberculous patients to show the beneficial results of Sanatorium Treatment on Nordrach lines. He stated that their own climate was quite well adapted for the cure of such cases and that hygienic measures alone were efficient to obtain cures.

Apparatus and card specimens were exhibited by Dr. BRUCE and by Dr. A. MILES.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—The third meeting of the session of this society was held on Dec. 17th, Mr. W. B. Holderness, the President, being in the chair.—Cases and specimens were shown by Mr. J. O. Skevington, Dr. P. J. A. Seccombe, Dr. C. R. Elgood, and Mr. James Startin and Mr. A. W. Wigmore.—Mr. Startin read a paper on the History of the Early Application of the X Rays to cases of Lupus, Rodent Ulcer, Psoriasis, Eczema, Acne, and other Skin Diseases by Dr. F. H. Low and Dr. J. H. Sequeira of London, Dr. G. M. Lowe of Lincoln, and Professor Schiff and Professor Reund of Vienna, and also referred to his own and Mr. Wigmore's work at the London Skin Hospital since 1898. He then described the technique of the treatment. After alluding to the action of the x rays on micro-organisms, he proceeded to give an account of the histology and pathology of the skin after exposure to the x rays as described by Mr. G. Pernet and Dr. M. Stephen Mayou and the observations made by himself and Mr. Wigmore were detailed. He next alluded to the physiological effects of the direct spark discharge and high-frequency currents and the effect of the x rays on various diseases of the skin. Finally, after referring to the notes of the cases that had just been exhibited and demonstrated to the members, he read a report detailing the result of a year's cases that had been treated at the London Skin Hospital with more or less good results. The number of exposures amounted to 2700.—Mr. J. H. Tomlinson read a paper on the Present State of Knowledge of the Physical Nature of Roentgen Rays. He referred in the first place to the spectrum of ordinary light and showed experimentally that the infra-red rays could influence a radiometer through a sheet of ebonite quite opaque to visible light. He then described the chief properties of the ultra-violet rays—viz., their chemical activity, including their action on photographic plates, their power of exciting phosphorescence and fluorescence, their power of discharging an electroscope charged with negative electricity, and their therapeutic action in lupus,

&c. He next referred to the successive phenomena seen when an electric discharge was taking place in a Crookes's tube which was being exhausted. The kathode rays were due to streams of electrified particles emitted from the kathode at a high velocity. They could be deflected by a magnet, they excited fluorescence, cast shadows of interposed objects, rendered platinum foil red hot when focussed upon it, and by the bombardment of the anti-kathode they set up quivers in the ether which were propagated in all directions and which constituted the Roeptgen rays. These rays possessed all the properties of the ultra-violet rays enumerated above but could not, like them, be reflected, refracted, or polarised, nor could they be deflected by a magnet like the kathode rays. Roentgen considered that his rays were longitudinal waves in the ether; others had held that they were transverse waves of very small wave length, their failure to be refracted being due to their being unhindered by the molecules of ether in much the same way that a mouse might pass through a thicket which would delay a man. Mr. Tomlinson finally alluded to Becquerel's discoveries and described the new elements polonium, radium, &c., which had the power of spontaneously emitting Roentgen and kathode rays.—The proceedings terminated with a cordial vote of thanks to Mr. Startin, Mr. Tomlinson, and Mr. Wigmore.

HARVEIAN SOCIETY OF LONDON.—A meeting of this society was held on Dec. 18th, Mr. W. Watson Cheyne, C.B., F.R.S., the President, being in the chair.—Dr. A. Morison exhibited a child, five months old, who showed the Dilated Veins which a French writer described as "venous dystrophy" and attributed to specific disease. Dr. Morison could find no evidence of specific disease in the case which he exhibited and he ascribed the malnutrition of the child and the increased intracranial pressure to over-production of children by a delicate mother rather than to specific disease.—Dr. Wilfred J. Harris showed a woman, aged 24 years, who suffered from a Sore-throat, not diagnosed as diphtheria at the time (January, 1901). A few weeks later she had difficulty in swallowing and nasal regurgitation with altered voice. The muscles of the lips and eyes afterwards became affected. In November she was treated by hypodermic injections of strychnine but she became worse. There were at the present time complete paralysis for reflex and voluntary movement of the palate, bilateral wasting, and almost complete paralysis of the orbiculares palpebrarum, less marked in the orbicularis oris. The tongue was partially atrophied and weak. Sensations in the pharynx were diminished. The deep reflexes were all brisk but the plantar reflexes could not be obtained. Electrical reaction was very slight to strong faradism in the soft palate with well-marked reaction to galvanism, K.C.C. being greater than A.C.C. There was very slight reaction to faradism in the orbiculares palpebrarum with better marked reaction to galvanism, K.C.C. being greater than A.C.C. Under treatment with galvanism of the affected muscles for five months and with iodide of potassium in from 10-grain to 15-grain doses three times a day the condition had scarcely altered.—Dr. J. S. Risien Russell showed a case of Peripheral Neuritis with paralysis of the right side of the face of peripheral type, paralysis of the right external rectus, slight paresis of the left external rectus, and well-marked optic neuritis subsiding into atrophy. Under treatment the paralysis of the face and of the external recti had disappeared and the limbs were also improving, though the patient was still unable to stand or to walk. No cause had been determined but the appearance of the patient and the features of the paralysis of the limbs made alcohol most probable.—Dr. E. Cautley showed for Mr. P. L. Daniel a woman, aged 63 years, on whom Resection of the Supra-orbital Nerve had been performed for severe neuralgia. The pain followed a bad attack of herpes in the region supplied by this nerve and was accompanied by marked trophic changes in the skin and hair affecting also the blood-vessels. Medical treatment proved useless. The operation had done no marked good to the pain, but the nutrition of the affected parts had somewhat improved.—Mr. F. Jaffrey said that he had seen marked improvement in certain cases of severe trigeminal neuralgia by the injection of osmic acid into the affected nerve. In a case under his own care where the third division of the fifth nerve was affected, he trephined the ramus of the lower jaw and injected osmic acid into the inferior dental and gustatory nerves with complete success.—The cases were also discussed by Mr. Campbell Williams and Dr. G. A. H. Barton.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Dec. 19th, Dr. Thomas G. Stevens, the President, being in the chair.—Mr. Reginald Brown showed a man, aged 33 years, whose Ulna was broken two years ago and though treated in various ways was unhealed. He cut down upon the fracture and scraped away the fibrous union, placing the arm and forearm on a splint. Healing resulted in six weeks.—Mr. F. Hewitt Oliver showed a radiogram of an Ununited Fracture at the outer inch of the clavicle in a woman, aged 55 years, who suffered but little inconvenience from the non-union.—Dr. Arthur T. Davies showed a specimen of an Aneurysm of the whole Aortic Arch from a man, aged 52 years. He died from hæmorrhage into the left bronchus following a slight cough that ruptured the aneurysm. Dr. Davies remarked on the rarity of rupture into the left bronchus.—Dr. Lewis A. Smith read a paper entitled "Errors I have Made and Seen." In it he said that gonorrhœal rheumatism was often mistaken for acute rheumatism. Gonorrhœal rheumatism affected the peri-articular tissues and acute rheumatism the articular tissues. Pain referred to the left scapula in a man, aged 34 years, was thought to be rheumatism but four months later was proved post mortem to be due to an aneurysm. Any fixed pain should give one pause before labelling it as rheumatic. Typhoid fever might resemble other diseases besides typhus fever and thus collections of pus that were hidden, miliary tuberculosis, and appendicitis were often mistaken for typhoid fever. Glycosuria was not synonymous with diabetes, for it might be transient, resulting from overstrain of mind or faulty digestion. Yet he believed that the simplest occasional passage of sugar in the urine was at the lowest end of the diabetic scale at the other end of which was the most acute wasting with polyuria, acetonuria, and coma. Confusion might arise readily if a patient's statement unproved were accepted when vomiting was reported, for a mere regurgitation might be called vomiting. Vomiting as a symptom in tabes dorsalis must be kept in mind, as also must repeated small doses of an irritant poison. Acute abdominal pain was not due always to abdominal disease but might be reflected from the thorax, as in pleurisy and pneumonia. A young man who was anæmic, had been constipated for four days, and had vomited and suffered severe abdominal pain, was prepared for laparotomy when he was noticed to have a sulphide line due to lead and so his abdomen was not opened. A man, aged 34 years, who had severe, sudden abdominal pain that did not lessen and whose pulse was worse in a few hours, was operated upon and was found to have hæmorrhage into the pancreas. He died in 24 hours and it was found that the blood-vessels to and from the pancreas were thrombosed. Empyema was often overlooked and should not be, for in any doubtful case of one-sided chest dulness an exploratory needle should be inserted. Dr. Smith said that all their mistakes taught them to have more care and always to make a post-mortem examination.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 17th, Dr. E. Symes-Thompson (London), the President, being in the chair.—Dr. Percy G. Lewis (Folkestone) read a paper entitled "Convalescence and Chronic Illness," of which the following is a summary. The symptoms of convalescence were those of lowered vitality. The system suffered from granular degeneration of the different organs affecting their functions; hence deficient elimination and auto-intoxication. Specially noteworthy was the effect of acute illness on the heart. Most convalescents were found to have dilated hearts which required appropriate treatment. Chronic invalids also suffered from auto-intoxication. It was important that a convalescent should be as carefully watched as an acute case. In treatment change of air to the nearest seaside health resort was advisable as soon as possible. This was of use not only by helping the patient to resume the habits of health and to cast off those of illness, but the pure stimulating sea air with the influence of sunlight had a remarkable effect in restoring healthy metabolism and aiding repair. Graduated medical exercises with heart tonics and careful attention to diet were recommended.—The paper was discussed by Dr. J. Groves (Carisbrooke), Dr. W. V. Snow (Bournemouth), Dr. Harry Campbell (London), Dr. C. Begg (Bath), Dr. T. F.

Gardner (Bournemouth), Dr. F. Bagshawe (Hastings), Dr. G. A. Leon (Sidmouth), and the President, and Dr. Lewis replied.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on Dec. 16th, Dr. C. C. Gibbes, the President, being in the chair.—Mr. A. F. Penny read a paper on Oral Sepsis as a Factor in the Causation of Disease. He referred to the extraordinary manner in which local septic conditions in connexion with diseased teeth were overlooked. Books on medicine impressed on the student the importance of examining the teeth and gums in cases of suspected lead poisoning, syphilis, scurvy, and rickets, but with this passing comment they dismissed the subject. Oral sepsis was the commonest and most noxious of all forms of infection in rich and poor alike. The organisms in connexion with dental cario-necrosis were pus-forming organisms of a most virulent type and the infection was of a mixed character. The most marked effects of oral sepsis were to be found in the stomach and the intestines. Cases were related illustrating the extraordinarily beneficial effect produced in chronic dyspepsia by remedying the oral septic condition, and stress was laid on the advisability of examining the teeth in every case. The matter was of great importance from a surgical, medical, and dental point of view. The surgeon took every possible precaution, as he imagined, to render his patient aseptic before operating and performed operations of the gravest character on the stomach and intestines while the patient's mouth was septic and full of necrotic teeth. The dentist extracted teeth and left open wounds in a place which was most prone to infection. Cases showing the grave toxic effects were described, including a case of what at first sight appeared to be subacute rheumatism but which cleared up rapidly after the mouth had been rendered aseptic.—A discussion followed.

TORQUAY MEDICAL SOCIETY.—A meeting of this society was held on Dec. 18th, Dr. F. D. Crowdy, the President, being in the chair.—Mr. H. T. Newling showed a youth, aged 18 years, with a peculiar Skin Disease of three years' duration, exhibiting more or less symmetrically disposed patches of violet colour on the shoulders, on the back, and on the front of the thighs. It was thought to be a mild type of scleroderma.—Mr. P. H. Gardner showed a girl, aged 13 years, whose Diseased Hip-joint he had curetted and then injected with iodoform emulsion last August. She was now apparently quite cured.—Mr. Gardner also showed a boy upon whom he had satisfactorily performed Bassini's operation for the Radical Cure of Inguinal Hernia.—Dr. T. Horton showed a boy with Genu Valgum. A skiagram apparently showed that an abnormality about the head of the tibia was the chief cause, but an operation rectifying this was followed by no improvement. Macewen's operation on the femur was then performed with an excellent result.—Dr. Horton also showed a girl with a Spontaneous Arterio-Venous Aneurysm between the dorsalis pedis artery and the internal saphenous vein.—Mr. Rupert Wheatley read a paper on the Dental Aspect of a Few General Diseases in which he called attention to the general neglect of the state of the mouth and teeth with all their septic organisms during the course of general diseases. Alluding to the proved virulence of some specific microbes in the presence of other different organisms he suggested that the occasional malignancy of some general diseases was due to their association with other septic organisms derived from the mouth.—Most of the members present took part in the discussion.

WATER-SUPPLY OF BATH.—A public meeting was held in Bath on Dec. 20th under the presidency of the Mayor to consider the proposals of the corporation to promote a Bill in Parliament to enable it to carry out works to increase the water-supply of the city at an estimated expenditure of £44,000.

DEPARTMENTAL COMMITTEE ON THE NURSING OF THE SICK POOR IN WORKHOUSES.—The committee of the Workhouse Infirmary Nursing Association has drawn up a memorial to the President of the Local Government Board, protesting against the proposed creation of "qualified nurses"—viz., women trained for one year in a small workhouse and holding a certificate of good conduct and proficiency from the superintendent nurse, the chairman of board of guardians, and medical officer.

Reviews and Notices of Books.

A Manual of Medicine. Edited by W. H. ALLCHIN, M.D., F.R.C.P. Lond., F.R.S. Edin., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Vol. IV.: Diseases of the Respiratory and of the Circulatory Systems. London: Macmillan and Co., Limited. 1902. Pp. 493. Price 7*s.* 6*d.*

THIS volume commences with a chapter on the General Anatomy and Physiology of the Respiratory System by Dr. Leonard Hill, F.R.S., lecturer on physiology at the London Hospital Medical College. Dr. Hill's remarks will be found very instructive, especially those dealing with the mechanism of respiration. The Diseases of the Upper Respiratory Tract are described by Dr. Lewis A. Smith, physician to the Poplar Hospital. A good clinical account is given of adenoids, but with regard to the treatment of this affection we are not entirely in accord with the writer. He says, "The treatment of adenoids consists in their removal." If we understand him correctly we consider that he is too sweeping in this statement. Surely the question of operation is dependent upon the quantity of adenoid growth present. If small in amount atrophy may well be hoped for and operative procedures may for a time, at any rate, be postponed. In describing the method of operation Dr. Smith advises a general anæsthetic but states that the operation is quite possible under cocaine and adds: "Some authorities use no anæsthetic, either local or general." This last procedure he quite disapproves of; we should go further and condemn the application of cocaine alone. Dr. Hector W. G. Mackenzie, physician to St. Thomas's Hospital and to the Hospital for Consumption, Brompton, writes on Diseases of the Lower Respiratory Tract. The article as a whole is excellent but in our opinion its value is impaired by the general arrangement which has been adopted. A large number of diseases are described but instead of considering each disease in full, as is the plan followed in most text-books—that is to say, discussing the etiology, pathology, morbid anatomy, symptoms, prognosis, diagnosis, and treatment under the heading of one particular disease—preliminary sections have been written on general etiology, morbid anatomy and pathology, and general symptomatology. We do not consider this plan a convenient or praiseworthy one. For purposes of reference it is most cumbersome and we doubt whether it will be found of value to students. The information contained in Dr. Mackenzie's contribution is ample and accurate but it is a retrograde step to separate etiology and pathology so completely from the clinical description. The section on Diseases of the Pleura is by Dr. F. de Havilland Hall, physician to the Westminster Hospital, whilst Dr. Allchin describes the Disorders of the Diaphragm.

The Physiological Introduction to the Vascular System is by Dr. Leonard Hill and we can speak in terms of the highest approbation of this section of the book. The first principles of the circulation are described in a manner which rivets the attention and cannot fail to instruct. The physiology of the component parts of the vascular system is considered in such a manner as to convey the maximum amount of information in the space allotted to the writer. We can cordially recommend a careful study of these pages to students about to commence their clinical work. The section on Diseases of the Circulatory System is by Dr. J. Mitchell Bruce. His remarks on the general etiology and morbid anatomy and pathology of diseases of the heart are excellent. The general symptomatology of these diseases is graphically described and a clear idea is conveyed to the reader of the different phenomena which may be encountered in dealing with cardiac affections. One

of the best sections is that headed, General Course and Prognosis of Heart Disease. It is more especially this aspect of disorders of the heart that the student finds difficult to understand. From the point of view of his future professional life it is, of course, of the utmost importance that he should fully comprehend the various details which have to be taken into consideration when forming a prognosis in any given case. Dr. Bruce's remarks will be found most valuable as an aid in this direction. We may further draw attention to the observations on cardiac failure, which are well worthy of note. The section entitled "The Principles of Treatment in Disease of the Heart" should also be carefully studied. The many suggestions found in the pages devoted to this branch of the subject will be found useful to students and to practitioners alike.

The volume ends with an excellent article on Œdema by Dr. Allchin. The pathology of the condition is well described and its clinical aspect is considered at length.

LIBRARY TABLE.

Executors: a Summary of their Powers, Duties, and Liabilities, together with an Epitome of the Death Duties. By H. P. C. KELLAND, Chartered Accountant. Second edition. Published by the author at 53, Victoria-street, Westminster.—The duties of an executor cannot be too clearly understood by those who are called upon to discharge them. In practice executors are almost always advised by a solicitor as to the course that they should pursue, but for many reasons a man may wish to know without taking legal advice what his powers and liabilities as an executor are. He may, for instance, want to make up his mind whether he will accept office or not and may prefer to do so without the formality that is implied in seeking legal advice. In such and similar circumstances Mr. Kelland's little book will be found to contain all the necessary information put in a very clear and concise form. Similarly, the epitome of the death duties, legacy duties, and succession duties, which makes up the latter half of this pamphlet, is very comprehensible and brief. Medical men are not always good men of business, so that it is not unlikely that some of them may find Mr. Kelland's pamphlet to be of great practical use.

Whitaker's Almanack, 1903. London: 12, Warwick-lane, Paternoster-row.—We have at length found something in the incomparable "Whitaker" at which to grumble, and that is the new perpetual calendar published in this year's issue. Somehow it does not seem to us so convenient for reference as the one published in last year's issue, but that may simply be because we have not yet got accustomed to it. It is, we think, a matter for congratulation that "Whitaker" should not be always at the apex of perfection or we fear that he would meet with the fate of Aristides and be ostracised, because people were tired of hearing his praises sung. In all other respects the almanack is as admirable and indispensable as usual.

Whitaker's Peerage, 1903. London: J. Whitaker and Sons, Limited.—This valuable work is not only a peerage but a baronetage, knightage, a list of companions of orders, of Privy Councillors, and of bishops both spiritual peers and others. The introduction is full of interesting matter and the amount of information in the volume is marvellous. So is the manner in which the details are kept up to date.

"Who's Who" for 1903. London: A. and C. Black. Price 5*s.* net.—"Who's Who" for this year is almost entirely biographical, all the tables which appeared in former issues having been omitted with the exception of a list of the Royal family and a small obituary list. The publishers, however, state that it is hoped to issue separately the tables which have appeared in former issues. As to the biographies, while some are interesting others are not, and the want of proportion in their length is very noticeable. But the book as a whole is enormously useful, as every working journalist knows, and the amount of trouble expended in its production must be very great.

The Englishwoman's Year Book for 1903. London: A. and C. Black. Price 2*s.* 6*d.* net.—This useful volume contains a mass of information as to women's employment and the work which they do in literature, education, temperance, social reform, the religious orders, and sundry other spheres. There is a full summary of laws as affecting women and children which will be found to be serviceable.

HOSPITAL MAGAZINES.

St. Bartholomew's Hospital Journal for November contains the concluding part of Mr. D'Arcy Power's paper on the Elizabethan Revival of Surgery. *Apropos* of the retirement of Sir William S. Church, Bart., K.C.B., senior physician to St. Bartholomew's Hospital, there is an interesting sketch of the life of the President of the Royal College of Physicians of London in his connexion with the institution at West Smithfield and there is another instalment of Smithfield Letters collected by "John Street Road." "Four Generations of Ophthalmic Surgeons to the Hospital" is the title of a not very well reproduced photographic group of Mr. Henry Power, the late Mr. Bowater Vernon, Mr. Walter H. H. Jessop, and Mr. W. T. Holmes Spicer.

Charing Cross Hospital Gazette for December describes a visit to the hospital clinics at Bonn. The writer says that "a month's grind at Hugo's System and three five-pound notes will carry one along for four weeks very comfortably." Mr. C. Carter Braine gives an account of the anæsthetic registers of the hospital from 1895 to 1900.

St. George's Hospital Gazette for November opens with a very interesting and instructive little note entitled "A Breath of Ozone," dealing chiefly with baths and bathing, by Dr. Robert Barnes. In it he incidentally mentions that his first contribution to medical literature was a case of Severe Vomiting after Immersion in a Tartar Emetic Bath, published in THE LANCET in 1839. Among other interesting matter in this number is the report of a lecture by Dr. H. A. Des Vœux on the Treatment of Disease by Exercises, Active and Passive.

Guy's Hospital Gazette of Dec. 20th is a very good number and the pencil of the caricaturist has been busy. An excellent reproduction of the illuminated "Arms, Crest, Supporters, and Motto belonging to the Hospital in the Parish of St. Thomas's in Southwark founded by Thomas Guy" and signed by "John Anstis, Garter," forms a supplement to this issue which also contains a copy of the original grant in the counting-house of Guy's Hospital.

St. Mary's Hospital Gazette for December publishes a very interesting account of Life in a Pioneer Town of West Australia by Mr. Graham Blick. "The Leucocyte's Lament," which is described as a physiological ballad by Augustus O'Leary, is amusing.

St. Thomas's Hospital Gazette for December contains the concluding portion of Dr. W. S. Colman's paper on Three Distinguished Amateur Physicians which is well worth reading. Naturalists will appreciate a paper on Egg Collecting.

University College Gazette for December chiefly devotes its pages to college notes, meetings of college societies, and such like matters. It contains a brief memoir of Dr. J. H. Gladstone—"a link with a former generation of professors and students."

The *Manchester Medical Students' Gazette* for December reproduces as a supplement to the *Gazette* a very good

portrait of the late Dr. David Little. Among the editorial paragraphs is one calling attention to the fact that Sir Dyce Duckworth's recent introductory address has been printed and bound in covers resembling those of twopenny notebooks and suggests the possibility of students reading novels bound in similar covers during the course of a lecture. This reminds us that some years ago a correspondent wrote a letter to the press complaining that he had seen a young lady in a second-class railway carriage reading a copy of one of Zola's most realistic books bound in a cover entitled "De Imitatione Christi," and we ourselves have seen a copy of the "Kreutzer Sonata" bound up under the title of "English Spelling as it is." The Christmas number of this *Gazette*, which for the most part is devoted to matter of a light nature, is an excellent one.

New Inventions.

A SAFER METHOD OF PROVIDING VAPOUR FOR HEATING PAQUELIN'S CAUTERY.

THE ordinary method of obtaining vapour for heating Paquelin's cautery—by forcing air through benzoline contained in a glass bottle which is attached to the clothing of the operator and often in close proximity to fire—is not, even under the most favourable conditions, entirely free from the risks of accident from violent explosion. In order to eliminate the risks of explosion while using Paquelin's cautery and to facilitate the heating of it I have had a particular form of open metal evaporating apparatus constructed for attachment to the hollow cautery handle in the place of the customary closed glass bottle. With this new arrangement the vapour employed for increasing and maintaining the glow of the cautery is obtained, not by driving air through a mobile liquid confined in a closed glass bottle, but by drawing air through an open metal container filled with cotton wick moistened with benzoline intended for evaporation. The mixture of air and inflammable vapour thus formed is driven by the force of a ball bellows into the platinum point. The metal container in which the wick is placed (lengthwise) communicates above with the inlet of the bellows, but below is open to the air; the lower opening, however, is protected by a wire gauze screen. This screen has two functions: the first to retain the cotton wick in place; the second, and more important, to protect the inflammable fluid and vapour present in the container from ignition by fire. To charge the apparatus a few drops of benzoline (say half a drachm or more according to requirement) are poured through the wire gauze screen on to the wick; in doing so the liquid should be poured evenly over the whole of the exposed surface of the wick. When heating the cautery the terminal should be heated to a dull red glow in the flame of a spirit lamp before the vapour is driven into it, otherwise the vapour will fail to ignite within the terminal but will ignite at the vent holes; should this occur it is merely necessary to cease pumping until the error has been corrected. There is not the least danger of the apparatus exploding; it may even be passed through the flame of a spirit lamp with safety. The vapour is protected from ignition below by the presence of the wire gauze screen; above by the valves that intervene between the container and the cautery.

I am indebted to Mr. J. H. Montague of 101, New Bond-street, London, W., for the manufacture of this little apparatus.

Old Burlington-street, W. GEORGE FLUX.

Looking Back.

FROM

THE LANCET, *SATURDAY, JAN.* 8, 1825.

FOREIGN DEPARTMENT.

ANALYSIS OF FOREIGN MEDICAL JOURNALS.

Beobachtung einer Entzündung des linken Ohres, durch mehrere maden veranlasst; deren vollständige Verwandlung nach ihrem Abgange gelang, Von Dr. Kuntzmann.

A case of Inflammation of the left Ear, occasioned by the presence of several larvæ in the external meatus.

A Surgeon of Berlin, Mr. MOHR, was consulted, some time since, by a little boy of six years of age, who had been suffering for five days a very severe pain in the left ear, without intermission, and which pain was daily increasing in intensity. On examination of the parts he found that the proper auricle was sound, but that the external auditory passage was very much swollen, and from it pus mixed with blood was discharged. In other respects the child appeared to be well. Mr. Mohr ordered an infusion of chamomile, with honey of roses and tincture of myrrh, to be injected into the ear, and an emollient poultice to be afterwards applied. The next day, when injecting the ear, Mr. Mohr was very much surprised to see several moving bodies, and with a small forceps he drew out six worms of the same size and figure. Soon afterwards the pains ceased, and in a few days the patient was quite well, without having any deafness or other inconvenience.

Each worm, or *larva*, was rather more than half an inch long, and one twelfth of an inch in breadth; of a yellowish white colour, and composed of many soft circular portions, locking the one into the other. On the head of each were two brown crooked projections, bent downwards, between which was found a little conical figure called, by Reaumur, *dard*. This dard was not straight, as it is in the domestic fly, but curved backwards the same as the little horns, although less so

Mr. Mohr gave two of these larvæ to Dr. Kuntzmann, and he placed them in a little box containing some finely powdered dry earth, a small piece of meat, and a little dung: they would not touch either of the two last substances, but plunged themselves immediately into the earth. Two days after he found them both changed into perfect chrysalides. These were brown in colour, cylindrical in figure, thin, and obtuse at each end; immovable, and apparently composed of many rings. In about five days they became perfect insects, with wings spotted with grey and black; and Professor Illiger, when they were shown to him, said that they belonged to the genus *Tachina*, but that they formed a new species of that genus.

This boy had been frequently in the habit of sleeping in the open air in a wood near his home, and there can be no doubt but that the eggs from which these larvæ are produced were deposited in his ear, by an insect, while he was asleep.—*Journal der Practischen Heilkunde, August.*

LEICESTER MEDICAL UNION AND VACCINATION.—The memorial to the President of the Local Government Board which follows has been sent by the Leicester Medical Union and this body hopes "that any other medical societies who agree with it will forward similar ones."

[COPY.]

To the Right Honourable Walter Long, M.P., President of the Local Government Board, this memorial of medical practitioners, constituting the Leicester Medical Union, respectfully sheweth:—

That in the opinion of your memorialists, it would conduce to the practice of vaccination in this country if Parliament were to enact that every duly qualified medical practitioner shall be put on the same footing in regard to the practice of vaccination as that on which public vaccinators now are.

It is well known to your memorialists that many adult persons who refuse to visit the public vaccinator would have their children vaccinated and would be themselves revaccinated if this could be done, free of cost to themselves, by their regular medical attendant.

(Signed for the Leicester Medical Union.)

O. F. BRYAN, President;
JAMES PEACOCK, Honorary Secretary.

335, Humberstone-road, Leicester, Dec. 20th 1902.

THE LANCET.

LONDON: SATURDAY, JANUARY 10, 1903.

The Imperial Vaccination League.

IN the absence of organisation there can be no guarantee of victory and the apathy of human nature renders such organisation necessary in order that the truth may be made known and its teachings brought home to those whose duty it is to modify the laws in accordance with the demands of science. In the matter of vaccination there is a crisis approaching. At the end of the current year the provisions of the Vaccination Act of 1898 must be ended, extended, or mended, and it is of the greatest importance to the public health, in so far as its freedom from small-pox is concerned, that such provisions shall be amplified and improved. We discussed in a recent leading article the question as to who should administer the coming Vaccination Act,[1] and we see no reason materially to modify the position which we then took up—i.e., that of the several bodies more or less concerned, the Local Government Board, the guardians, and the district or county councils, the last-named bodies are best fitted to undertake the administration of vaccination. Among the reasons which we adduced for this view were the facts (1) that county councils are least likely to be influenced by the small section of well-meaning enthusiasts to be found in every community, and (2) that county councils would be able, either alone or in combination, to erect laboratories which in the first instance would serve for the preparation of calf-lymph, but which might afterwards be so expanded as to provide for general bacteriological and chemical examinations for the county. Thirdly, we pointed out that the county councils in their capacity of education authorities would possess great facilities for administering the Act. County councils were created in 1888 by a Government of the same political views as that which is now in power, and it would be a graceful act on the part of the Government, showing its appreciation of the work done by certain county councils in furthering the public health, if the proposed powers were conferred upon them. We have also urged from time to time the necessity for placing revaccination upon the same basis as primary vaccination—i.e., that such revaccination shall be compulsory at school ages in the same sense, and with the same loopholes for what is called "conscience," as primary vaccination. There is, too, need, as we have for many years insisted, to render "one mark" vaccination a thing of the past and to make it impossible for a practitioner who degrades his profession by advertising "one child, one mark, one shilling" to pursue his calling. This point and many others equally important are made by Dr. DUKES in the able letter upon the present position of vaccination which we publish this week.

Now, the Imperial Vaccination League, which is presided over by the Duke of FIFE, and which contains in the list of its vice-presidents an array of names which from the point of view of academic distinction it would be difficult to beat, has for its programme a scheme very similar to the one that we have sketched. The object of the League is also to assist in the education of the people in the matter of vaccination and particularly, we may add, revaccination. The League has our entire sympathy and we should be glad to see it so supported financially by those who agree with its aims as to enable it to provide legal assistance in cases in which baseless allegations are made against vaccination, allegations which are generally supported by legal assistance from a society of very different calibre to the Imperial Vaccination League. If those who appreciate the value of vaccination were possessed of a tithe of the energy of those who fail to appreciate it there would be but few "consciences" left for our magistrates to deal with. A deputation from the Imperial Vaccination League is to wait upon the President of the Local Government Board during the coming week, and we have no doubt that the influence and ability which the members of the League possess will enable the deputation to put its case before Mr. LONG with such clearness and force as to carry conviction. It is, however, to be hoped that the deputation will be content to advocate certain principles and to leave the application thereof to the Cabinet Minister who acts to some extent as Minister of Public Health. These principles should, we think, embrace the following points: (*a*) the removal of vaccination administration from boards of guardians; (*b*) the enforcement of revaccination in the same sense as primary vaccination is now enforced; (*c*) the definition of "efficient" vaccination; and (*d*) the provision of laboratories under the general supervision of the Local Government Board in which supplies of calf lymph should be prepared. We feel that if the League contents itself with enforcing these principles it will be doing a greater service, and one which is more consistent with its aims and constitution, than if it raises a discussion as to whether county or district councils shall administer the coming Act.

But the League must state its case emphatically and should point out to Mr. LONG that if he, as the protector of the public health, wishes practically to eliminate small-pox he must follow the example of the German Empire which has so eliminated the disease. Let the League be no consenting party to apologetic measures. And let it not be forgotten that the protection of the public health is not a political question: it is an elementary duty incumbent upon both parties. We trust, therefore, that the League, having put its case before Mr. LONG, will also put it before those who sit on the opposite side of the House seeing that their attitude will decide whether the coming Bill is to be regarded as a non-contentious measure or is to be made an excuse for the exhibition of party bias.

The Medical Man, the Coroner, and the Pathologist.

UNDER the above heading reference has recently been made in THE LANCET upon several occasions to the selection or indication by the London County Council of Dr. LUDWIG

[1] THE LANCET, Oct. 25th, 1902, p. 1136.

FREYBERGER as a pathologist to be employed by coroners in the County of London for the making of post-mortem examinations. Dr. FREYBERGER has been consequently employed to make such examinations and to give evidence at inquests, particularly by Mr. TROUTBECK, the recently appointed coroner for South-West London. In the interests of the public and of the medical profession alike there are in our opinion many reasons which render the innovation described undesirable, but we propose for the present to postpone the discussion of these and to examine the legal aspect of the question only, to which attention was particularly called at the recent meeting of the South-West London Medical Society. Our report of this meeting, which will be found on page 126, sets out the opinion of Mr. MUIR MACKENZIE, obtained at the instance of the society. Our own views were formed some time ago, but the publication of them was delayed in order that the development of the question might be watched and that, if possible, the precise legal positions adopted by the London County Council and by Mr. TROUTBECK might be ascertained. These we do not find easy to determine, although we readily concede that both the Council and the coroner are acting in good faith and under the impression (in our view a mistaken one) that the course adopted is for the public good. The position of the Council may, however, become clearer when that body replies to the South-West London Medical Society.

As matters stand at present, the chairman of the Public Control Committee of the County Council has made a statement on the subject which has been published in THE LANCET[1] to the effect that the Council has been for some time dissatisfied with the existing law as to the making of post-mortem examinations and has in vain urged successive Governments to alter it. In these circumstances, he says, the Public Control Committee "considered in what way improvement could be made by the Council under the existing law and on July 1st last they reported to the Council the result. They recommended amongst other reforms: 'That all coroners be informed that in the opinion of the Council it is desirable that post-mortem examinations in inquest cases of a special nature should be intrusted to a specially skilled pathologist.' And the Council approved this recommendation. On the same day Mr. TROUTBECK was appointed coroner for the south-western district and he agreed to give effect to the Council's resolution." The statement from which we have quoted further informs us that Dr. FREYBERGER was found to be an experienced pathologist and "was also prepared to make the post-mortem examinations and give evidence in cases requiring special pathological experience and skill for the statutory fee of two guineas," and that it was accordingly "suggested" that he should be employed in special cases, but not so as to supersede the medical attendant on the deceased in ordinary cases. We do not propose to discuss at present whether in point of fact Dr. FREYBERGER has only been employed in cases of special difficulty, but on the general question of the arrangements made with regard to him we would point out that the statement referred to admits that the law with which the Council was dissatisfied remains unaltered, and speaks of a resolution with a view to an improvement "under the existing law," without attempting to show that the existing law justifies or permits the "improvement." It will be observed, however, that Dr. FREYBERGER is to be paid the statutory fee and that it is therefore apparently admitted that unless his employment is justified by statute the fees paid to him have not been properly paid.

Mr. TROUTBECK in the course of an inquest held on Dec. 22nd, 1902, made some observations upon the adverse criticism which his employment of Dr. FREYBERGER had evoked, making references to the Coroners Act of 1887 and to arrangements made by the County Council with Dr. FREYBERGER. He, however, like the chairman of the Public Control Committee, did not make clear the source of the power under which the County Council made its arrangement with Dr. FREYBERGER and its "agreement" with himself. He appeared to regard the choice of a medical man to make a post-mortem examination or to give evidence at an inquest as a matter wholly within the coroner's discretion, but we are not informed that he has at any time quoted any authority for this proposition. The calling of medical witnesses and the holding of post-mortem examinations are governed by Section 21 of the Coroners Act, 1887 (50 & 51 Vict., c. 71), the gist of which is sufficiently given in Mr MUIR MACKENZIE'S opinion. We quote in full the third subsection only, because it defines the conditions under which special medical evidence is to be obtained. Section 21, Subsection (3), is as follows:—

> If a majority of the jury sitting at an inquest are of opinion that the cause of death has not been satisfactorily explained by the evidence of the medical practitioner or other witnesses brought before them, they may require the coroner in writing to summon as a witness some other legally qualified medical practitioner named by them, and further to direct a post-mortem examination of the deceased, with or without an analysis of the contents of the stomach or intestines, to be made by such last-mentioned practitioner, and that whether such examination has been previously made or not, and the coroner shall comply with such requisition, and in default shall be guilty of a misdemeanour.

It will be seen that this subsection, at all events, does not provide for the selection of a pathologist by any public body such as a county council or for the employment of any such person to make post-mortem examinations by the coroner upon his own initiative. In the event of the jury being dissatisfied with the evidence of the local practitioner, called under the two preceding subsections, they are to require the coroner to obtain other expert evidence, the selection of the person to give it resting with the jury, although, no doubt, the coroner's guiding influence would properly make itself felt upon such an occasion. The 22nd section of the Act provides for the fees of medical witnesses summoned to give evidence "under this Act," and we do not know of any power to pay fees to any medical witnesses not so summoned. This points to a possible remedy for those aggrieved which apparently was not suggested to Mr. MUIR MACKENZIE but which seems to have been successfully adopted in the case to which we are about to refer.

We are not aware of any difficulty having before arisen in England that could call forth a legal decision upon the matter under discussion, but a similar attempt to introduce a general medical referee for the purpose of inquests was

[1] THE LANCET, Dec. 20th, 1902 p. 1717.

made at Dublin in 1877 and was held to be illegal under the provisions of the Coroners Act (Ireland), 1846,[1] a statute which regulates the calling of medical witnesses at inquests upon lines generally resembling the provisions of the English Act. In this instance the corporation of the county of Dublin had agreed to pay a fixed yearly salary in lieu of fees to a medical practitioner permanently appointed by the coroner to attend as a medical witness at all inquests to be held in the city of Dublin. The question was raised by a ratepayer who moved to prevent the public auditor from passing payments so made and the court in giving judgment intimated that the appointment of a permanent medical witness was illegal and that medical witnesses should be appointed from time to time as circumstances might require.[2] A perusal of the report of this case will, to those who have access to it, suggest the consideration of a further question which will have occurred to some already. The chairman of the Public Control Committee in a passage which we have quoted has said that Mr. TROUTBECK "agreed" to give effect to the County Council's resolution. We would ask for a more definite statement upon the subject of this "agreement" either from the County Council or from Mr. TROUTBECK. We should hesitate to infer that a coroner about to occupy a judicial position of some importance bargained with the body appointing him as to the manner in which he would carry out duties already defined for him by law. We should certainly question the propriety of any promise ostensibly binding anyone filling such an office to summon a particular witness before him to the exclusion of those who might otherwise be called, more especially should such a promise involve the payment of fees to the nominee of a body holding the position occupied by the London County Council in relation to the London coroners. The matter, however, may, with regard to all the points we have touched upon, be susceptible of explanation more complete than that which has at present been afforded. We do not question the desire of those concerned to make coroners' inquests effective and thorough, even if we doubt the advantages of the method adopted, and if without the fuller explanation suggested we are also sceptical as to its legality. With regard, however, to any possible alteration in the existing law we would point out that it was consolidated and re-enacted less than 20 years ago, and that no such change as that apparently desired by the London County Council could reasonably be made by Parliament without consulting to some extent the heads of the medical profession and ascertaining whether in their view the present system is unsatisfactory and if the proposed change is likely to effect an improvement.

Sir Michael Foster and the Representation of the University of London.

THE present position of affairs with regard to the representation of the University of London in Parliament has an interest for the medical profession as a whole as well as for those who are London graduates and members of Convocation. Sir MICHAEL FOSTER'S election in 1900 was in large measure the result of the desire of his constituents that the University member should be a man who could speak with authority in matters where science and learning are concerned, who would command attention in the House of Commons, and whose presence in Parliament would strengthen the administrative business of the country in a way which would hardly be possible in the case of a Member elected on political and party lines. This view was very strongly held by graduates in medicine and science, the great majority of whom supported Sir MICHAEL FOSTER, and it has been thoroughly justified by events. Sir MICHAEL FOSTER has come to occupy a strong position in the House of Commons, where it is recognised that he can not only express the views of an expert but can show the way by which expert knowledge can be turned to account in legislation and administration. The plea for science which he made in his speech on the Beer Bill of 1901—a speech believed to have influenced many votes—was a good illustration. Few men have a broader understanding of the principles which should guide the State in its relations with medicine and with matters of public health, and his keenness to secure amendments of sanitary legislation and improvement in the present condition of the public health service is well known. His work on the Royal Commissions on vaccination, sewage disposal, and tuberculosis in particular, has placed him in an exceptional position of influence when these matters come to occupy, as they shortly must, the serious attention of Parliament. We are certain that the announcement which Sir MICHAEL FOSTER made in his letter to Sir JOHN ROTTON published on Monday last, will be received with relief by his supporters and by the medical profession. We do not feel that Sir MICHAEL FOSTER'S published communications on the matter have been very lucid or fortunate, but we understand that he has been placed by others in a difficult position. The main point is that personal circumstances, which had seemed to make his resignation imperative, have altered sufficiently to enable him to retain the seat. He is prepared to do so, remaining as before practically independent of party claims; but as his action has resulted in three candidates having been put forward for the vacancy believed to be pending he has thought it right to ask Sir JOHN ROTTON, who acted as chairman of his committee at the last election, to ascertain the wish of the constituency. This is about to be effected by means of a circular letter addressed to the University voters. We have no doubt that a ready response will be forthcoming. It is a misfortune that a series of accidents has caused the three candidates, Sir JOHN WILLIAMS, Sir PHILIP MAGNUS, and Sir W. J. COLLINS and their respective supporters to be put to trouble and inconvenience, and it is evident that Sir MICHAEL FOSTER is very sensible of the awkward position which has arisen. But it would be a still greater misfortune to the University and to science if Sir MICHAEL FOSTER were no longer in the House of Commons.

[1] 9 & 10 Vict., c. 37.
[2] R. v. Finlay, Irish Reports 11, Common Law, 498.

Annotations.

"Ne quid nimis."

THE LANCET RELIEF FUND.

THE annual report of the Almoners of this Fund will be found on page 124. In the case of an institution such as THE LANCET Relief Fund, founded for well-defined objects, the history of the past will form largely the experience of the future; and a retrospect of the incidents of the year's work just concluded reveals no new features. The majority of the cases brought to the notice of the Almoners are still those of the widow and orphans suddenly plunged into grief and distress by the loss of the husband and father upon whose existence their own practically depended. The details of these cases plainly reveal the struggle to make both ends meet which prevailed whilst the bread-winner was yet alive. It is not easy to picture a more distressing position than that of a mother of a family who, as she turns away from the death-bed of her husband, almost before she has realised the severity of her own personal loss, is compelled to contemplate the worldly side of that loss as she finds that the entire support of herself and of her children is gone. During the past year 73 applications for assistance were received. Of these, 24 were relieved by gifts of money ranging from £5 to £30, which involved the expenditure of £318. Many letters from those who have benefited have again been received expressing gratitude for the prompt relief which has enabled them to bear, and oftentimes to overcome, their difficulties. To those who have so ungrudgingly helped us in carrying out the work of the Fund it is again our privilege to make public acknowledgment of our indebtedness—to Sir William Selby Church, Bart., K.C.B., the President of the Royal College of Physicians of London; to Sir Henry Greenway Howse, the President of the Royal College of Surgeons of England (to whom, as one of our Almoners, we offer our congratulations on the distinction of knighthood conferred upon him by His Majesty the King); to Sir William Turner, K.C.B., the President of the General Medical Council; and to the veteran Sir Henry Pitman, for many years the registrar of the Royal College of Physicians of London. The application form of THE LANCET Relief Fund will be found in our present issue and can be readily detached for use in case of need. We again take an opportunity of asking those of our readers who may have occasion to assist in furthering any application made for relief to note carefully the conditions which entitle applicants to participate in the benefits of the Fund, as it is still found that many requests are made in behalf of cases outside the scope of its working. All applications should be made on the prescribed form and should be sent to the Secretary of THE LANCET Relief Fund, THE LANCET Offices, 423, Strand, London, W.C.

THE NECESSITY FOR AMENDMENT OF THE REGISTRATION ACTS.

IT is an indubitable fact that our very loose system of registration of deaths opens the door to both crime and fraud. The latest example of this which has come under our notice was the cause of an inquest held by Mr. S. Brighouse, who is one of the county coroners for Lancashire, concerning the death of a child, aged two months, named James Gallagher. The coroner in opening the case related the following remarkable story. The child was born on Oct. 9th and was attended for illness by Mr. W. Hamilton of Wigan. He last saw the child on Dec. 10th and on Dec. 12th the mother told Mr. Hamilton that the child had died that day. Mr. Hamilton therefore gave her the certificate. On Dec. 13th the mother registered the death and obtained a club paper by which she would be able to draw £2 for funeral expenses. The registrar handed over the burial certificate which the woman promptly lost. Curiously enough, it was found the same evening by the manager of a firm of undertakers, Mr. Johnson. He called that same night at the address given and found that the child was still alive. The mother demanded the certificate back but Mr. Johnson refused to part with it and handed it over to the police. On Dec. 13th the mother again went to the registrar and said that she had made a mistake and that the child had died at 2 A.M. that morning. The registrar told her to get another medical certificate. On the 15th the representative of the undertaking firm called again and found the mother washing the child who was still alive. On the 18th the mother appeared at the registrar's office with another certificate and the registrar promptly forwarded the whole story to the police who communicated with the coroner who ordered an inquest and a post-mortem examination. The mother, who gave evidence, said that she quite thought that the child was dead when she went for the first certificate. Mr. Hamilton, who had attended the child, said that he gave the certificate on the mother's statement because from what he had seen of the child he had every reason to anticipate his death. He had made a post-mortem examination and had found the cause of death to be pneumonia. The jury returned a verdict of "Death from natural causes." As we understand that proceedings may be taken against the mother we are thereby precluded from commenting upon her conduct, but it is obvious from the facts which we have recounted that it should be made obligatory for any medical man before giving a death certificate to satisfy himself of the fact of death. For such certificates a fee should be made legally payable.

SILLY ADVICE.

JUST recently a great deal has been heard from the clergy as to their objections to having lay managers set over them to decide as to what they shall or shall not teach. This being so it is somewhat remarkable to find a parish priest going out of his way to advise unorthodox treatment in the case of illness. We have upon various occasions animadverted upon the conduct of religious houses which sell some elixir or salve warranted to cure all and sundry diseases; we have also rebuked various clergy of the English Church for issuing circulars prescribing three drops of carbolic acid as a cure for "fever" or for undertaking medical treatment in other forms. Such persons, however, though foolish, were of no influence outside their proper spheres and therefore not of much importance. But from a correspondence which we have had forwarded to us we are sorry to have to put on record a grave dereliction of duty on the part of a metropolitan parish priest who is by no means a fool, who is on the contrary a brilliant writer, an able preacher, and who has given up most of the good things of this world in pursuit of his calling. It appears that a supporter of the Rev. Mr. —— is afflicted with some incurable disease of the œsophagus. The Rev. Mr. —— thereupon wrote to his supporter and said, "I wish you would try Mr. Simms, 36, High-street, Oxford, for your trouble you have which prevents you from swallowing. He has some wonderful stuff which has an effect in dispersing 'growths' of many kinds. I really think that it would be worth trying." The sufferer accordingly, at the earnest request of his wife, wrote to Mr. Simms and received an

answer from Mrs. Simms inclosing two bottles of a preparation called "Oxonia," for which the charge was 6s. in addition to a fee of £2 2s. Mrs. Simms gave as a reference a person at Blackheath who promptly wrote a letter saying that his mother had been greatly relieved by using "Oxonia" for a similar complaint. Then the sufferer wisely communicated with his medical man who has forwarded the whole correspondence to us. Mr. Simms, of course, is a quack, but unfortunately the law cannot touch him unless perchance one of his "patients" were to die. But we do think that the conduct of the cleric in question is deserving of the gravest censure. He has raised false hopes in one who is in sore trouble and the only redeeming feature of the case is that the patient has sought orthodox medical relief in vain, so that Mr. Simms and his backer cannot be accused of having delayed treatment. But we would ask the Rev. Mr. —— how he would feel if we were to write to one of his flock who had sought spiritual consolation and who had been told, like Tannhäuser, that there was no help and advise him to seek aid from the Rev. Giles Jowles or any other self-constituted "minister." The Rev. Mr. ——'s position and abilities make his advice all the more dangerous when he is wrong, and we earnestly hope that he will take our remarks to heart.

THE DIFFUSIBILITY OF THE VIRUS OF SCARLET FEVER.

UNDER the above heading we publish at p. 92 of our present issue an interesting communication on a series of cases of scarlet fever which have been under the observation of Dr. John Sutherland and which afford, he claims, evidences of "the wonderfully low diffusibility of the scarlet fever virus." Few epidemiologists will disagree with his contention that the virus of scarlet fever cannot retain its vitality indefinitely, as it is clear that there is a limitation of vital activity with regard to the virus of all communicable diseases. There will not, however, be the same unanimity of opinion with respect to Dr. Sutherland's proposition that scarlet fever is "intensely contagious," and this notwithstanding his assertion that throughout the whole course of the epidemic to which he is referring he has only seen one instance of a susceptible child escaping the disease after contact with a desquamating case. We are not quite clear whether he regards the desquamating cuticle as the vehicle of infection, but if he does so he will find that many modern authorities do not agree with him at the present moment, and it would be well that Dr. Sutherland should hesitate before he generalises from the series of facts which have come beneath his notice. It would not be difficult to furnish another series of well-attested facts to show that whatever the channel of infection may be it is not the desquamating cuticle. In this connexion we would refer him to the large number of desquamating cases of scarlet fever which a few years ago were discharged without harm accruing from the Leicester Fever Hospital at a time when the beds at that institution were required for cases of small-pox. The main thesis, however, which, as far as we gather, he wishes to establish is that there is no danger of the conveyance of scarlet fever from one person to another through the agency of a third person such as a nurse or by any aerial convection of the infection from one room to another. We do not quite follow Dr. Sutherland's reasoning when he states that if healthy persons can convey the infection of scarlet fever we must assume that the virus has a separate existence after dissociation from its host. On the contrary, it seems to us only necessary to assume that the virus does not forthwith perish when so dissociated. Has the virus of small-pox a separate existence because its striking power is great or is the question solely one of resistance to atmospheric conditions? But Dr. Sutherland's generalisations seem to be drawn from the consideration that in 48 families home isolation proved pre-eminently successful because "susceptible" children lived in each of the 48 houses and all escaped the disease, the term "susceptible" being used to imply children who had never to the knowledge of the parents suffered from the disease. According to him all these children were properly isolated either in one of three rooms on the ground floor or one of three rooms on the first floor. We cannot help suggesting that these 48 families were somewhat remarkable if the heads thereof were able to prevent all intercourse between the sick child and the other "susceptible" children for from six to eight weeks. Our own experience of this class does not quite lead us to expect this exemplary behaviour on the part of children thus circumstanced. The view we rather take of the whole series is that out of 10 + 34 + 48 = 92 families secondary cases occurred in 22. Dr. Sutherland's statement that in Division III. the second case always occurred two days after exposure is so precise that we think he may have been misled on this point. This tendency to look for mathematical accuracy in the behaviour of an infectious disease, in which none of the factors necessary to bring it about can be regarded as exact quantities, is, we think, somewhat unfortunate. It is surely sufficiently recognised that the majority of "susceptible" children who are exposed to scarlet fever fail to contract it forthwith, and similarly it is only infrequently that the disease is caused by a third person. But these facts hardly justify Dr. Sutherland's practice of tacitly encouraging mothers to visit their neighbours' sick children.

THE FOURTEENTH INTERNATIONAL MEDICAL CONGRESS, MADRID.

THE Fourteenth International Medical Congress will be held at Madrid from April 23rd to 30th. Messrs. Thomas Cook have arranged the following itinerary, to be directed by experienced conductors, the inclusive cost being 33 guineas for members of the congress and their wives holding cards of invitation and 39 guineas for other friends of members of the congress. The party will leave Charing Cross Station at 2.20 P.M. on Monday, April 20th, and will arrive in Paris at 9.15 P.M. Hotel accommodation will commence with supper on arrival at the Hôtel du Palais d'Orsay on Monday night. On Tuesday, April 21st, the journey will be continued by train de luxe from Paris, starting at noon. Berths in the sleeping-car will be reserved for the party and meals will be served *en route*. Madrid will be reached about 3 P.M. on Wednesday, April 22nd, and those who apply first for tickets will be able to secure rooms at the Hôtel des Ambassadeurs. The return journey will commence on Thursday, April 30th, when the night express will be taken to Biarritz, where the party will stay until Saturday, May 2nd. They will leave Biarritz by the 6.27 A.M. express for Paris, arriving about 10.30 P.M., luncheon and dinner being served *en route*. A conductor will travel by the morning express *viâ* Boulogne and Folkestone, arriving in London early in the afternoon of Sunday, May 3rd. The party may be left at Paris, as the holders of tickets may return at any time within 45 days. The inclusive fare provides first-class tickets from London back to London; hotel accommodation and meals *en route*, commencing with supper in Paris on the outward journey and terminating with breakfast in Paris on the return (Sunday), according to the dates named in the itinerary (the accommodation consisting of bedroom, lights, and service, plain breakfast, table d'hôte luncheon, and dinner at table d'hôte; while travelling it will be necessary to modify this arrangement,

refreshments being provided *en route*); berth in sleeping-car from Paris to Madrid (outward journey only); fees to hotel and railway servants; carriage drive on one day in Madrid; free conveyance of 56 pounds of baggage; omnibuses to and from hotels while with the conductor; and the services of a competent conductor who will undertake the general supervision of the arrangements throughout. In order that the necessary arrangements for sleeping-car berth, hotel accommodation, conducting, and the like may be completed in good time it is requested that intending passengers will register their names by paying a deposit of £10 each as early as possible. When paying deposits passengers are requested to state the full name of each member and to say whether married couples, single ladies, or single gentlemen in order that the necessary rooms may be arranged. The balance of fare must be paid one week before the date of departure. Owing to the large demand for hotel accommodation in Madrid it has been necessary to reserve rooms in advance; the amount of the deposit therefore cannot be returned if for any reason the tour is not taken. Arrangements have also been made for an additional tour from Madrid to the South of Spain. This tour will occupy nine days, and Seville, Cordova, Granada, and the Alhambra will be visited. The inclusive fare is 18 guineas for members and their wives and 21 guineas for friends. The party will leave Madrid by the night express for Seville on Thursday, April 30th, and will arrive at Madrid again at 10.25 A.M. on Saturday, May 9th. Intending visitors to Spain are strongly advised to insure their luggage before leaving England and they must provide themselves with passports. Dr. Seelig, Ph.D., acting for the Voyages Pratiques of Paris, has also made arrangements for conveying members to the Congress. His address is 11, Ludgate-hill, London, E.C.

"SECRETIN."

IT has long been known that the passage of acid chyme from the stomach into the duodenum caused a flow of pancreatic juice and this has always been recognised as due to a so-called "local reflex." In a recent paper by Dr. E. H. Starling and Dr. W. M. Bayliss, read before the Pathological Society of London, of which an abstract is published in THE LANCET of Dec. 27th, 1902, p. 1753, they prove that the flow of pancreatic juice is not due to a "local reflex" but to the absorption into the blood of a product of the mucous membrane of the small intestine, which acting chemically on the cells of the pancreas produces a flow of pancreatic juice. This substance is produced in the mucous membrane as the result of the introduction of acid into the small intestine and can be obtained even from alcohol-dried mucous membrane by the action of weak acids. To this body Dr. Starling and Dr. Bayliss have given the name of secretin, although it has not yet been isolated in a pure condition. By injecting this secretin into the veins of animals they were able to produce a flow of pancreatic juice the quantity and time of production of which depended on the amount of secretin injected. Using this secretin for the artificial production of pancreatic juice they have been able to study the properties of this juice with greater accuracy than has hitherto been done and it has been found that of the three ferments present in pancreatic juice—viz., that which acts on starch, that which acts on fat, and that which acts on proteid—only the first two are active when the juice is collected from the duct of the gland and that in order to make the fluid active on proteid it is necessary to mix it with the succus entericus of the small intestine; this secretion contains a body first described by Chepowalnikow and named by him "enterokinase," which when added to pancreatic juice inactive on proteid converts its trypsinogen into an active tryptic ferment. Two further points have been brought out in this work which may have important clinical bearing—firstly, they showed that pancreatic juice in the absence of acid chyme in the small intestine produced an acute enteritis and they suggest that the introduction of enterokinase into the pancreatic duct might cause an acute pancreatitis owing to the production of an active tryptic ferment. It follows from this that though a flow of pancreatic juice may be induced by the injection of secretin there would be considerable danger of giving rise to an enteritis unless the time for such an injection was made to coincide with the time of passage of acid chyme from the stomach into the small intestine. The second point of interest is the observation by Pawlow that as long as the contents of the duodenum remain acid so long does the pylorus remain in a state of contraction and it is only when the contents of the duodenum have been rendered alkaline or neutral by the pancreatic secretion that the pylorus relaxes and allows a further flow of acid chyme from the stomach. The possible bearing of such an observation on the condition of hypertrophied pylorus in infants is one which is of considerable interest and suggests further lines of treatment for that affection.

CHOLERA IN EGYPT AND ELSEWHERE.

THE following figures show the distribution of cases of, and deaths from, cholera throughout Egypt during the week ending Dec. 15th. 60 cases of cholera have occurred during this period against 42 during the previous one, thus showing an increase of 18 cases. During the same week 41 persons have been found dead out of hospital and 10 have died in hospital, against 27 deaths out of hospital and 7 deaths in hospital during the past week, thus showing a total increase of 17 in the number of deaths. During the same period 59 cases have occurred in Alexandria, against 32 in the preceding week. Since Nov. 4th no cases of cholera have occurred in Cairo. For the week ending Dec. 22nd the figures are as follows: 17 cases of cholera occurred, against 60 in the preceding week, thus showing a diminution of 43 cases. During the same week 7 persons have been found dead out of hospital and 7 have died in hospital, against 41 deaths out of hospital and 10 deaths in hospital in the previous week, thus showing a total diminution of 37 in the number of deaths. The 17 cases above referred to have occurred at Alexandria. During the preceding week 59 cases occurred in that city.—For the week ending Dec. 29th, 49 cases of cholera occurred, against 17 in the previous week, thus showing an increase of 32 cases. During the same period 13 persons were found dead out of hospital and 19 died in hospital, against 7 deaths out of hospital and 7 died in hospital during the previous week, thus showing an increase of 18 in the number of deaths. During the same period 6 cases occurred at Alexandria, against 17 in the preceding week. A rather sharp outbreak was reported a few days ago from Khoos el Bousa, a small village about one hour's distance from Sohag and situated on the banks of Sohagia Canal. Dr. C. Goodman and a staff of well-borers and disinfectors were at once ordered to the village. The Local Government Board for England has issued a circular dated Dec. 24th, 1902. The circular is addressed to all port sanitary authorities, to the King's habourmasters of dockyard ports, to all officers of customs, to all medical officers of health of the sanitary authorities aforesaid, to all masters of ships, to all pilots, and to all others whom it may concern. The circular sets forth the regulations made on Nov. 9th, 1896, concerning the flying of a yellow flag on every ship infected with cholera, yellow fever, or plague when such ship shall be within three miles of any part of the

coast of England or Wales during the whole of the time between sunrise and sunset. But the circular further orders the exhibition of a night signal as follows:—

> The master of every ship infected with cholera, yellow fever, or plague shall, when the ship is within three miles of the coast of any part of England or Wales, or is within the limit of a port, cause to be hoisted at the peak or other conspicuous place where it can be best seen, and at a height of not less than 20 feet above the hull of the ship, during the whole of the time between sunset and sunrise, a night signal, consisting of three lights, which shall be arranged, at a distance of not less than six feet apart, in the form of an equilateral triangle, and of which the light at the apex of the triangle shall be white, and the other lights at the ends of the base of the triangle shall be red in colour.

THE METROPOLITAN WATER-SUPPLY.

THE report on the condition of the metropolitan water-supply during the month of October was issued by the Water Examiner at the beginning of December last. The Thames river water was in good condition during the whole of the month, and the level of the flow varied from a point one inch above to one six inches below the average summer level. The rainfall at West Molesey during the month amounted to 1·55 inches. The average daily supply delivered from the Thames was 133,864,635 gallons, from the Lee 23,586,638 gallons, from "springs" and wells 57,369,740 gallons, and from Hampstead and Highgate ponds 1295 gallons. The total average daily supply was 214,822,308 gallons for an estimated population of 6,425,346, and this represents a daily consumption per head of 33·43 gallons. The Chelsea Company delivered the largest amount per head daily (40·71 gallons) and the East London Company the smallest (28·17 gallons). The Lambeth and the Southwark and Vauxhall Companies distributed a larger amount of water per head than they did during the corresponding month of the year 1901; all the other companies supplied a smaller amount. The estimate as to the amount of water "delivered per head" is, we believe, arrived at from calculations as to the amount of water pumped from the distributing stations of the water companies. In the case, therefore, of any serious defects in the distributing mains of the companies any water wasted through these defective mains is accounted for as having been used by the customers of the company. It has been already pointed out in THE LANCET[1] that our present knowledge of the condition of the mains of the metropolitan water companies is distinctly fragmentary and it may be remembered that the August report of the Water Examiner recorded the occurrence of the curious fact that water from the Langham Hotel well had found its way into the mains of the West Middlesex Company. As we remarked at the time of the issue of the report[2] a detailed account of this occurrence would have been of interest. The subsequent reports of the Water Examiner have failed to add to our knowledge on the point. During October the East London Company obtained supplies of water from the Southwark and Vauxhall Company and "from the New River Company aided by the Grand Junction and West Middlesex Companies." The average daily amount "passed on" by the Southwark and Vauxhall Company was 8,998,387 gallons. The quantity "passed on" by the New River Company "if spread over the whole of the month was equivalent to a daily average supply of 2,218,855 gallons." The supply, however, was not "spread over the whole of the month" but was given from the 10th to the 31st inclusive. This is the account given in the body of the report of the Water Examiner. The figures given under the heading "details of the metropolitan water-supply and works of the water companies" are not exactly identical with those given above. The table of details of the "average daily supply during the month in gallons" is to be found on page 8, column 5, and is as follows: Supply from river Lee and storage, 6,721,139; from Thames, 8,480,000; from wells, 14,953,861; from Hanworth springs, 2,069,000; from Thames per Southwark and Vauxhall Company, 8,992,000. As on previous occasions on which figures on the same subject have been given in different parts of the report, and have not been identical, no explanation is given as to how it happens that the discrepancy occurs. It would add to the value of the report if the Water Examiner would in such a case append a few words to make the matter clear. Theoretically, of course, the report is written for the instruction of the President of the Local Government Board and presumably he is satisfied with it. It might be interesting if a Member of Parliament would discover whether he understands and can explain it. The proportions of brown tint observed in a two-foot tube ranged from 2 to 15 degrees of the standard in use. "The water of the Lambeth Company exhibited the deepest average tint of brown." The Water Examiner states that "all the samples of water collected at the works of the companies were efficiently filtered." It is not stated that any sample of water collected at any "works" of any company was submitted for analysis to Dr. T. E. Thorpe, F.R.S., the chemist to the Local Government Board, nor does the Water Examiner say on what authority he makes the statement quoted above. Dr. Thorpe examined during the month 14 samples of each company's water. The samples which were collected on Oct. 13th were fully examined and the results of the analysis showed that the relative amount of organic impurity contained in the specimens is numerically represented as follows: Kent, 9; New River, 10; Lambeth, 20; Southwark and Vauxhall and Grand Junction, 21; East London, 22; West Middlesex, 25; and Chelsea, 26. Dr. Thorpe reports that "the East London Company's supply taken in a district served with water from the works at Sunbury contained an amount of organic impurity practically identical with the average found in the London waters, but the proportion of oxidised nitrogen was, as usual with the Sunbury supply, distinctly higher. The water," he adds, "was clear and of good chemical quality." It is a matter for congratulation that Dr. Thorpe has bestowed special attention on the Sunbury supply of the East London Water Company, which, as far as we remember, has not hitherto been specially referred to in the Water Examiner's report, although THE LANCET has many times given the reasons which make it desirable that the water from the filter beds should be analysed at periods during which the Thames is in flood. Dr. Thorpe's present report refers to an analysis taken when the Thames water was in a good condition. It will be interesting to compare this with an analysis made at a time when the Thames water is muddy.

[1] THE LANCET, Nov. 15th, 1902, p. 1336.
[2] THE LANCET, Oct. 18th, 1902, p. 1065.

THE PREVALENCE OF SMALL-POX.

IN his recently issued report on the occurrence of small-pox in the borough of Southend-on-Sea from January to June, 1902, Dr. J. T. C. Nash, the medical officer of health, devotes considerable space to the important question of the efficiency of vaccination and revaccination. Much misapprehension on this point no doubt exists in the community at large and fallacies ingeniously devised for the purpose of discrediting vaccination have by this means been made to pass current as incontrovertible truths. The essential fact is, as Dr. Nash points out, that vaccination does not consist in the mere insertion of lymph in an incision or scratch in the skin but in the production of a definite local effect which, in the case of primary vaccination, consists of a vesicle possessing certain special characteristics and leaving a permanent, depressed, foveated scar. In revaccination the local effects are slighter in proportion to the amount of residual immunity left in the individual from

THE LANCET RELIEF FUND.

For Members of the Medical Profession and their Widows and Orphans when in Distress.

—:o:—

ALMONERS.

THE PRESIDENT OF THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE PRESIDENT OF THE GENERAL MEDICAL COUNCIL.

THOMAS WAKLEY, F.R.C.S. Eng.

THOMAS WAKLEY, Jun., L.R.C.P. Lond.

HON. AUDITOR.

SIR HENRY PITMAN, M.D. Camb., F.R.C.P.

—:o:—

THIS FUND will be provided year by year in the month of January to the amount of at least £300 solely by the Proprietors of THE LANCET, and administered free of cost, for the purpose of affording immediate pecuniary assistance to Medical Men, or their Widows and Orphans, *in cases of Acute Distress and Emergency*, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require.

Applicants must satisfy the Almoners of the Fund that they are qualified under the following regulation:—

* "The recipients shall be such persons as satisfy the Almoners that they possess one or other of the following qualifications—that is to say: (*a*) That the applicant holds a registered medical qualification, and that he has fallen into pressing need of immediate pecuniary relief; or (*b*) That they are persons who have been, previously to the date of application, legitimately dependent upon some person holding a registered medical qualification, and that they have pressing need of immediate pecuniary relief."

(*In the case of Widows and Orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.*)

To ensure the utmost despatch, the "Application Form" upon the other side should be filled up and forwarded (in an envelope superscribed "THE LANCET Relief Fund") to the Secretary, Mr. CHARLES GOOD, THE LANCET Offices, Strand, London, W.C.

The application *must* be accompanied by two separate Testimonials (originals, not copies)—one from the Clergyman of the Parish or other resident Minister of religion, and one from a registered Medical Practitioner. Each Testimonial *must* state—(1) that the application addressed to the Almoners has been read; (2) how long the writer has known the applicant; (3) that the writer believes the statements made by the applicant to be perfectly truthful, and such as may be acted upon without further inquiry; and (4) *may* state any other particulars that the writer desires to place before the Almoners.

Testimonials written for the Almoners of the Fund will in no case be returned.

Private and Confidential.

APPLICATION FORM.

To the Almoners of The Lancet Relief Fund.

The applicant should here state shortly :—

1. **The nature of the emergency that has arisen.**

   (In the case of Widows and Orphans the full names and date of death of the Husband or Father must be given.)

2. **The circumstances out of which it has arisen.**

3. **The amount of the grant desired, and whether by way of loan (free of interest) or of gift.**

4. **If by way of loan, state when the loan will be repaid; and from what source the funds to repay it are expected to be forthcoming.**

Continued on page 116 C.

5. Whether the applicant is entitled or able in the circumstances which have arisen to look to any other source of assistance; and if so, what is the expected nature and extent of such assistance.

6. Whether the applicant is receiving, or has received during the past six months, pecuniary aid from any Medical Charity.

7. State how the applicant is qualified to receive assistance; vide regulation * on first page.

8. Particulars of:

Applicant's age

Number in family

How many are self-supporting

How many are partially dependent

How many wholly dependent

Applicant's Signature

Address

Date

Continued from page 116 B.

No. _____

THE LANCET RELIEF FUND.

Name _____

Address _____

_____

Received _____

Considered _____

Result _____

Date _____

the previous operation. Passing on to the experiences of Southend, Dr. Nash states that the population of the borough roughly numbers about 30,000, of whom about 10,000 may be reckoned to be children under 15 years of age, and of these about 9000 are vaccinated. Revaccination has been so freely resorted to during the last twelve months that 15,000 persons—i.e., one-half of the population—may be assumed to have been vaccinated within the last 15 years. The remaining 15,000 inhabitants may be divided into two groups—one of 13,000 who have not been vaccinated for over 15 years and one of 2000 unvaccinated. During the six months under review no case of small-pox occurred in the group of 15,000 vaccinated within 15 years, 15 cases of small-pox with one death occurred in the group of 13,000 not vaccinated for over 15 years, and 10 cases of small-pox with four deaths occurred in the group of 2000 unvaccinated. Both the attack-rate and the mortality-rate were therefore very much higher among the unvaccinated than among the vaccinated.

THE RELATION OF RICKETS TO MENTAL ENFEEBLEMENT.

THE relationship of rickets to certain forms of mental defect and weak-mindedness has only been recently established. Trousseau in his famous lectures delivered at the Hôtel Dieu, Paris (1868), said that "rachitics were of superior intelligence to other children of the same age," a statement now known to be only partially correct. The mental condition of rachitic children has been closely studied by Eichhorst, Bourneville, and others who have shown that in combination with liveliness of spirits and some precocity the rachitic child undoubtedly exhibits mental deficiency. Dr. Paul Renoult of Paris in a recent *Thèse de Paris* (1902) gives a careful study of the mental and cerebral conditions in rachitic children. Anatomically the rachitic skull is, he says, characterised by persistence of the fontanelles and late closure of the sutures, while both swelling and softening of the bones of the cranial vault are also present. The result is a protuberance of the frontal region of the head, giving rise to the so-called "Olympian forehead." The parietal eminences or bosses are prominently developed while the intermediate sagittal suture is depressed and gutter-like in appearance. The rachitic skull tends to be large and brachycephalic in form, while the marked development of the parietal and frontal eminences often gives it a quadrate appearance. Certain interesting anatomical differences are pointed out between the skull of the "degenerate" and of the rachitic. The skull of the degenerate tends to be plagiocephalic—i.e., of asymmetrically oblique formation. Such a condition is never seen, adds Dr. Renoult, in the rachitic skull. Scaphocephaly, or a keel-like elevation of the sagittal line of the skull, is frequent in degenerates but is rare in rachitic subjects. Finally, hydrocephaly and microcephaly are characteristic of idiocy and the grosser forms of degeneracy but are not met with in rickets. As regards development of the face and jaws it is pointed out that whereas an asymmetrical face and a narrow and high-arched palate are very characteristic of idiocy the former is not present in rickets, though the latter is occasionally found. A slight or moderate prognathism of the upper jaw is often associated with rickets. Abnormalities and malformations of the eyes, eyelids, ears, and genital organs are not infrequently found in idiots and imbeciles but seldom in cases of rickets. On the other hand, characteristic osseous deformities of the spine (scoliosis and kyphosis), pelvis (flattening and obliquity), and lower limbs (curved tibiæ) are frequent in rickets and rare in idiocy. From careful studies and measurements made on 430 idiots and imbeciles at the Bicêtre, Paris, Dr. Renoult has ascertained that the following osseous malformations or peculiarities of development are present in rickets: beaded ribs in 24 cases, natiform skull in six cases, "Olympian forehead" in 10 cases, prognathism of the superior maxilla in three cases, scoliosis of the spine in five cases, incurved shape of the tibiæ in six cases, incurved shape of the femora in eight cases, and genu valgum in two cases. Of the 430 patients examined 35 exhibited signs and symptoms of rickets, a proportion of nearly 12 per cent. The mental condition of these rachitic patients, says Dr. Renoult, was not one of marked or low-grade idiocy. They were mostly imbecile or feeble-minded. Moreover, they did not present many or marked anatomical stigmata of degeneracy like the idiots. The defect of intelligence in these rachitic patients is not regarded by Dr. Renoult as congenital but as acquired in infancy as the result of gastro-intestinal or pulmonary infection. Infants, he adds, are prone to catarrhal affections of the alimentary and respiratory tracts, subacute and persistent in character, attended by moderate febrile disturbance, and followed by marked symptoms of toxæmia. As a result of such toxæmia two sets of changes may be produced—viz., a rachitic alteration of the osseous structures and a degeneration of the cerebral nerve cells with partial arrest of their development. The latter is the underlying cause of the mental deficiency—backwardness in speech and general intelligence—exhibited by the rachitic child. Detailed accounts of necropsies of five cases are given which support the above views. In conclusion, says Dr. Renoult, we are not entitled to say that rickets is the cause of weak-mindedness but that both rickets and weak-mindedness are sometimes due to the same infective processes and toxæmias of infancy.

THE WINTER EXHIBITION AT BURLINGTON HOUSE.

THE 1903 exhibition of works by the "Old Masters" certainly deserves its name, for the works shown go back to the time of Daedalus, say to 2000 B.C. Though none of the actual works of that versatile artist, who was somewhat comparable to Giotto, Leonardo da Vinci, M. Santos Dumont, and Sir Joseph Whitworth rolled into one, are exhibited, yet there are photographs and coloured drawings of works by him or by his pupils. These exhibits are mostly the result of researches and excavations undertaken by Mr. Arthur Evans between 1894 and 1902 inclusive. But a few articles are shown by Mr. D. G. Hogarth who has also been excavating in Crete. All the exhibits are of extraordinary interest and show the marvellous height to which the arts had risen in the time of Daedalus. To begin with, the palace of Minos at Knossos, of which Daedalus was the architect, had a complete system of baths with a drainage system supplied with ventilating shafts and other sanitary arrangements on an almost modern plan. Photographs are shown of a set of ivory statuettes representing youths leaping, in which the anatomical modelling and the muscular action are represented with extraordinary power and accuracy. In a water-colour drawing from a fresco we see a bull-fight. There are no horses in the ring, but there is the bull, a magnificent animal, together with three bull-fighters. Two of these are ladies. They are scantily dressed, but what struck us most was the size of their waists. Presuming that the Knossian lady was of about the same size as a modern Englishwoman her waist would have been about 12 inches in circumference. As the clothing of the lady in question consists simply of a corset made apparently of some golden fabric and a small scarf depending in front and behind from it, it would seem that the fulminations which the medical profession has for ages been hurling at tight stays can no longer be sustained on

the ground that these articles are a modern innovation; nor can it be said that they impede muscular action. Possibly, however, the lady in question only girded herself in the fashion shown when she was in the ring and so escaped gastroptosis, digestive troubles, a red nose, and fits of "the vapours"—all of which have been ascribed to tight stays of modern type.

MEDICAL OFFICERS IN THE MERCHANT SERVICE.

WITH reference to the case of Dr. T. W. S. Paterson, the particulars of which were reported in THE LANCET of Dec. 13th, 1902, p. 1642, we learn by cable that the appeal of the Peninsular and Oriental Steamship Company against the decision of the magistrate was heard before the Appeal Court at Shanghai in December, 1902. The court reserved its decision, and on Jan. 5th judgment was pronounced in favour of Dr. Paterson. The Peninsular and Oriental Company has given notice of appeal to the Privy Council. We are told that Dr. Paterson has begun an action in the High Court of Justice in England against the Peninsular and Oriental Company, claiming damages for malicious prosecution.

THE PROSTITUTION OF THE POST OFFICE.

IN THE LANCET of Dec. 20th, 1902, p. 1712, we referred to an abominable advertisement emanating from the United States in the form of an envelope inclosing an account of some coal-tar derivative. The envelope was adorned with a large scarlet heart held by a skeleton hand. We forwarded a selection of these envelopes to His Majesty's Postmaster-General and have been favoured with the following reply:—

GENTLEMEN,—With reference to your letter of the 15th instant I am directed to inform you that the designs on the covers which you enclosed are not offensive within the meaning of the Act restraining the transmission of objectionable articles by post; and, in these circumstances, the Postmaster-General is not able to take any steps such as you suggest to prevent their circulation.

I am, Gentlemen, your obedient Servant,
To the Editors of THE LANCET. H. BUXTON FORMAN.

All we can say is that the sooner the law enables the Postmaster-General to take steps for the stopping of the transmission by post of circulars of this nature the better it will be.

HEMI-HYPERTROPHY OF THE BODY WITH ENLARGEMENT OF THE OPPOSITE SIDE OF THE BRAIN.

WE have recently called attention to a case of hemihypertrophy of the head and face associated with neurofibromata of the cranial nerves on that side, in which the hypertrophy was supposed to be due to an abnormal trophic influence of the affected nerves.[1] In the *Australasian Medical Gazette* for September another curious case of hemihypertrophy is recorded by Dr. C. Reissmann, and though widely different is analogous in that an abnormal trophic influence of nervous origin is again suggested. In this case the whole half of the body was affected and the associated nervous affection was enlargement of the opposite side of the brain. The patient was a boy, the youngest of a family of three. The mother was healthy and attributed the deformity to a shock which she received when two months pregnant on seeing a friend who was accidentally killed. The pregnancy continued to term, but the abdomen was larger than in the previous pregnancies and at the fifth and seventh months there were false labour pains. There was some difficulty in the labour in consequence of the size of the head and the child was delivered with forceps. He weighed 14 pounds. On the fifth day after birth the right leg was noticed to be larger than the left; then it was found that the right arm and the right cheek were the larger. At the age of five months he weighed 28 pounds. At the age of seven months he came under the observation of Dr. Reissmann. The left side of the cranium was much larger than the right. The anterior fontanelle was widely patent and the posterior fontanelle was just patent. There was slight proptosis of the left eye. The ears were of equal length. The right cheek, jaw, and gums were distinctly larger than the left. The right side of the tongue was greatly enlarged, which enlargement when the organ was protruded caused deviation to the left. The right shoulder, arm, forearm, wrist, hand, fingers, and nails were much larger than the left. From the deltoid tubercle of the acromion to the styloid process of the ulna measured 20 centimetres on the right side and 17½ on the left. The enlargement appeared to involve skin, subcutaneous tissue, and muscle, and certainly involved bone. Little difference was noted in size between the two sides of the chest. The right side of the abdomen was slightly larger than the left, particularly the skin and subcutaneous tissue which formed on the right side a loose fold above Poupart's ligament. There was an umbilical hernia. The right buttock, leg, foot, toes, and toe-nails were much larger than the left. The right leg was longer than the left by five centimetres. The enlargement appeared to involve all the parts of the limb—skin, connective tissue, muscle, and bone. The muscular tone was good and equal on both sides, but the movements of the right side were more clumsy than those of the left; the attempt to grasp an object with the right arm was less decided then with the left. The knee-jerks were not so readily obtained on the right side as on the left. Thus there was enlargement of almost the whole of the right side of the body and of the left side of the cranium, and therefore also of the left side of the brain. Dr. Reissmann infers that there was also enlargement of the right side of the spinal cord, as it was improbable that the enlargement of the brain was due to mere overgrowth of neuroglia. He thinks that the nerve cells and their axis cylinders, the upper neurons, were enlarged. If the upper neurons were enlarged the lower ones were probably enlarged also. But he seems to overlook the fact that a numerical increase of the neurons without enlargement is equally probable and would equally account for the facts. This enlargement of one side of the brain and of the opposite side of the body is as curious as it is rare. No doubt it is rational to explain the latter by an abnormal trophic influence of the affected side of the brain. But this only goes one step backwards. The question arises, how is the cerebral overgrowth to be explained?

[1] THE LANCET, Dec. 20th, 1902, p. 1711.

PRACTICAL ARMY HYGIENE IN THE FIELD.

IT is not so much the want of sanitary knowledge as the difficulty or impracticability of applying it in the circumstances of war that has to be overcome in a campaign. Apart from forced marches, night attacks, and hurried movements often in entire ignorance of the position that a force will occupy until it actually finds itself there, all of which are more or less incidental to modern warfare, there has to be considered what is the best sanitary organisation to be adopted. The Army Hospital Services Inquiry Committee following the Egyptian campaign of 1882 recommended that a conservancy body should be organised in connexion with the Quartermaster-General's department. Not only does the provision of a special sanitary corps presuppose the presence of a directing staff of well-trained and competent officials to point out and to advise what has to be done, but it requires a properly organised executive of sanitary engineers and workmen with all the necessary appliances to do it. If the latter are to consist largely of the civil element—navvies and artisans, for example, with carts, picks, and shovels—they

would require, not being themselves armed or trained to arms, the protection of a military force during their operations, whereas a military and armed body of men could protect themselves and, if need be, could even add to the fighting strength of the army. As it is at present the men of the Royal Engineers and the soldiers belonging to different corps units acting under constituted authority are supposed to carry out all field and camp sanitary work; and it would seem that any special army sanitary corps would require to have a military organisation. The formation of such a corps would, no doubt, cause some initial expense, but it might very well exist in a skeleton stage during peace and be brought up to any given strength when required for war. Among the manifold changes and reforms in the army that are being talked of at the present time this subject of army sanitation in war is one that seems to us well worthy of being very carefully considered. If we are to take the results of the latest investigations into the causes of the spread of enteric fever as the basis of our sanitary action it will apparently have to be upon the lines of complete isolation of the sick—not easily to be accomplished in war.

THE RECENT TRAGEDY AT THE FULHAM BATHS.

THE death of two persons from electric shock at the Fulham public baths is a startling event which calls attention in a very emphatic way to the factors which determine the safety or danger of contacts with "live" wires. Like most electric-light fatalities the deaths were caused by leakage from a charged conductor to earth through the body. Contacts with conductors charged to 200 volts are not, as a rule, dangerous because the resistance of the body under ordinary conditions is sufficient to prevent the passage of more than a small current when that pressure is applied to it. Thus a person with dry hands and with dry boots on may touch a 200-volt conductor and feel little or nothing, even if he be standing upon a damp floor. In the victims of the Fulham accident all the natural protection which boots and dry hands provide were abolished. They were bathing, or about to bathe, their hands were wet with hot water, and they were standing in hot water or on wet concrete in the best of metallic connexion with earth through the waste pipes or the steel floor. It is well known that the moistening of the skin with hot water reduces its resistance enormously, so that a procedure of this kind is a regular preliminary to almost all therapeutic applications of electricity. When a patient is immersed in a bath of warm water a pressure of six or eight volts is sufficient to produce a commencement of tetanic rigidity in the muscles with an alternating current like that employed for electric lighting at Fulham, so that the effect of 200 volts under the conditions of the accident can readily be understood. The charged conductor with which contact was made seems to have been an iron bar or girder which traversed the tops of the partitions between the cubicles to strengthen and to support these partitions. Its connexion with the electric-light wires was entirely accidental and it is difficult to say how long it may have been charged, thus constituting an unseen danger to those who used the baths. We are informed that it was not the electric-light casing which was the charged body, but some uncertainty exists as to this point in the newspaper reports; it appears, however, that contact was made by putting the hand on the top of the partition rather than by touching the metal electric-light wire casing which ran along the partitions at a lower level. It is worthy of note that in the case of one of the victims death was not instantaneous. He had time to call out and the caretaker was able to go to him and to break open the door and to try to detach him. His death seems to have been due to the prolonged action of a current which was not strong enough to kill instantaneously. Points to be learnt from the accidents are that touching electric-light switches should be avoided by those having a bath and that bath-rooms should never have their electric-light fittings placed where they can be reached by a person in the bath; also that gas-pipes, water-pipes, and drain-pipes are "good earths" and that leakage currents from faulty electric fittings will be felt more strongly if contact is made simultaneously with two of these.

THE RESEARCH LABORATORIES AT THE UNIVERSITY OF LONDON.

THE provisional arrangements for research in the physiological laboratory of the University of London have just been issued. The following courses of lectures will be delivered during January, February, and March, commencing on Tuesday, Jan. 20th, at 5 P.M.: Dr. W. D. Halliburton on the Chemistry of Muscle and Nerve (Tuesdays), Dr. T. G. Brodie on the Circulation (Thursdays), and Dr. A. D. Waller on Experimental Pharmacology and the Action of Anæsthetics and Narcotics (Fridays). The laboratory has been established with the objects (1) of affording to the lecturers of the University of London and other duly accredited physiologists a place in which the results of current research can be presented by lectures and by demonstrations and (2) of giving to advanced students of physiology opportunity for the prosecution of research. The laboratory includes a lecture room, a workshop, a chemical room, a general laboratory, and two rooms assigned to the physiology of the special senses (inclusive of physiological psychology). Courses of research lectures with demonstrations are delivered during each academic term and a limited number of students are admitted as laboratory workers for advanced work. Applications "to occupy a laboratory table" should be made in the first instance to Dr. Waller, University of London, South Kensington.

THE LEAGUE OF MERCY.

SIR HENRY C. BURDETT has just addressed to the press a letter not far short of 2000 words in length pleading for personal service and support for the League of Mercy, instituted about three years ago by the King. The league has revealed, he states, possibilities for good to London and Londoners quite apart from its monetary side—viz., that it gives everyone the opportunity to emulate the example of the Good Samaritan. All the officers joining pledge themselves to render personal service by inducing small givers to become associates. A subscription of one guinea a year, however, entitles the subscriber to be enrolled as an honorary member. Some members at first were inclined to resign on the ground that it was such a trouble to ask twenty people each to give at least 1s. to the hospitals, but when it was pointed out that this very trouble constituted their expression of thankfulness for the blessings they enjoyed these same members approached their work with a new and successful spirit and also inspired others. Sir H. Burdett says that everyone who at present subscribes to a hospital should become a member of the League, as its work by widening the area of givers must tend to lessen the burden entailed upon each in support of the hospitals. He will be glad to receive at the Lodge, Porchester-square, London, W., the name and address of every Londoner who desires to find a channel in daily life for the expression of the sympathy felt by the healthy for the sick and suffering.

THE MOSQUITOES OF THE ATLANTIC ISLANDS.

DR. MICHAEL GRABHAM of Jamaica, a zealous exponent of the West Indian culicidæ, is at work upon the mosquitoes of the Atlantic islands and has already obtained interesting

results. The Azores have yielded no specific forms of any interest, but from the Madeiras he has sent to the British Museum four or five new varieties of culex in addition to one or two already well known and described. None of these, however, is of human interest, and one small one only is blood-feeding in habit. In the case of the Canaries, however, matters are very different. Dr. Grabham has found at Teneriffe, on the south side, a small anopheles identical with, or allied to, the malarial insect of the West Coast of Africa. This species is fairly common in the ravines and tanks. He has found also the same mosquito as is concerned in the spread of yellow fever at Havana. These discoveries are of great interest, for though the islands are free from malaria and yellow fever it is quite easy to contemplate either disease spreading when introduced if these subtle means of conveyance are at hand. Yellow fever was epidemic at Palma not many years ago and lasted two years. Dr. Grabham sends an interesting account of Guimar, 23 miles from Santa Cruz along a splendid road, but singularly destitute of vegetation. He found the fertile valley of Guimar grandly situated, full of terraced cultivation, and with groves of orange trees bearing fruit luxuriantly. Rain seldom falls and the hotel patients were sleeping out on the roofs or verandahs. The water was supplied from a distant source in a concreted channel.

Sir Ernest Cassel has, it is announced, offered the sum of £40,000 for the investigation of ophthalmia and of other diseases of the eye among the natives of Egypt. The chief object of the scheme is to train native medical men in the diagnosis and treatment of ophthalmic diseases, for native medical men alone can induce their poorer compatriots to learn habits of cleanliness and so to minimise, if not to prevent altogether, the ravages at present due to ophthalmia.

A COURSE of ten lectures on the Mechanism of the Secretory Process will be delivered at University College, London, by Dr. W. M. Bayliss in the physiological theatre on Mondays at 5 P.M., beginning on Jan. 12th. The lectures are open to all internal students of the University of London without fee, as well as to qualified medical men on presentation of their cards.

SOME REFLECTIONS UPON THE PROFESSIONAL AND ETHICAL QUESTIONS ARISING OUT OF CONTRACT PRACTICE.

BY W. MUIR SMITH, M.D. GLASG.

THE time-limit, under the standing orders, apportioned to readers of papers and to subsequent speakers during the proceedings in the Section of Ethics at the annual meeting of the British Medical Association at Manchester was unfortunately all too short, leading to effete and incomplete conclusions. Of ethics pure and simple there were almost none. The effect of this is evident from the terms of the resolution adopted on specific contract work,[1] which runs as follows:—

> That club and friendly society contract work is undesirable in the best interests of both patients and the profession.

The utility of this resolution is more than obscure; in application it is of no effect, while it is negative by omissions which involve denial without directly denying—and by inference it implies—the existence of a positive. It is quite possible to convert the negative resolution into a positive proposition by inserting some form of qualifying condition or conditions to supply the omission as an amendment, accordingly—

> That in club and friendly society contract work only members whose average weekly income does not exceed 25s. and who contribute 7s. 6d. per annum for that purpose shall be entitled to the benefits of medical attendance

affords positive data for discussing the system in some of its aspects and bearings. Club and friendly society contract practice has existed, does exist, and probably will continue to exist, and if abuses prevail surely these must either be amended or ended by practical measures.

"Contract" is an undertaking between two or more persons, in terms usually expressed verbally or in writing, to do a certain work or supply a certain article for a specified consideration. The principle of contract not only pervades all, even the most menial, action in everyday life but also regulates the manner in which the obligation is discharged. Contract embodies a functionary "barter"—i.e., exchange of one thing for another. The bargain is estimated according to the quality of personal judgment. The spirit of the parties in bartering is more or less selfish, the intention being to gain an advantage by questionable methods. In the best sense professional services are priceless. The manner of discharging obligations varies according to the conception of moral responsibility. To state that the standard of professional ability and integrity, even with an enhanced dignity thrown in, is commensurable with the amount of fee charged, is sheer nonsense. Contract invites speculation, and it is the mercenary disposition of the bargaining spirit occasionally running riot in our midst that makes for evil ways in "shady" transactions. No doubt there are some who accept the existing conditions, see no harm and perhaps some profit in every form of contract work, deny any offence against moral certitudes or legal enactments, acclaim their right to liberty of conduct, and resent friendly admonitions as insults, determined that as preservers of their own well-being they will rely upon their judgment for that end.

The conduct of professional life is regulated more by moral precept than by legal enactment. The General Medical Council in relation to State administration occupies a unique position. A sessile appendage, yet recognised as an integral part of the Privy Council, its function therein is purely advisory in matters connected with or affecting the profession. Devoid of legal power, unfettered by stereotyped formulary—being a law unto itself—judgment on questions of conduct is based upon, or at least is influenced by, prevailing opinion—i.e., the consensus of professional opinion—for the time being on any contentious subject, and which becomes binding on the whole body. If the composition of the General Medical Council be invidious the manner of administration is very democratic; while its disciplinary powers, being unlimited, could be used more arbitrarily than the edict of a despot. Thus the State in absolute faith hands over certain administrative work to the General Medical Council; and so it comes to pass that the general profession have to frame their own laws and shoulder the responsibility of the General Medical Council's actions. This ever-increasing condemnation, being a sincere desire to protect the public from imposition and to conserve professional integrity, is the outcome of years of discussion and is declaimed with such persistence and effect that the volume of righteous repudiation can no longer be ignored.

From their peculiar nature the public are unable to appreciate the quality of services tendered. The contract practitioner taking advantage of his opportunity performs his duties mechanically and prescribes inferior or unsuitable substitutes, soothing his conscience in the reflection that such conditions preclude giving of his skill the best and treating as he should if the pay were more. The General Medical Council has already issued a warning to the profession, threatening all the penalties of the Yarmouth case on individual offenders. This sounds as if coercion might remedy the evil by restricting individual liberty, a principle apparently contrary to the best form of constitutional government. Liberty if uncontrolled becomes a licence and a licence unrestrained becomes an abuse, a grave injustice, and an injury to others; hence the law steps in to check its mad career and to protect the interests of others. Because the law does not interfere with a man's action that man is not necessarily free. It is a fact that extensions of law need not imply diminution of freedom, but quite the opposite. There is a moral restriction as well as a legal restriction. The profession bends to its will all who form part of it and the practitioner must submit to the customs

[1] THE LANCET, August 9th, 1902, p. 391.

and formalities of his calling. Liberty to go to practise elsewhere by reason of fancied grievance is an empty privilege when the conditions are everywhere the same. No one can be free to decide for himself the conditions of his employment. Before receiving State licence to practise every probationer must subscribe to certain specified conditions regulating his conduct in professional life; *which conditions were not of his own framing nor those of any individual, but a solemn covenant binding on every member.*

It is more justifiable that the majority should impose their will on the minority by means of a law for the ultimate good of all than that the minority through their economic power should impose their will on the majority to the common detriment; moreover, that which is acclaimed by the majority as acceptable must either in whole or part benefit the minority where a community of interests exists.

In any contract two at least are required to make a bargain. Habits and customs growing up with childhood, youth and manhood become an integral part of the generation and are likely to be more deeply rooted in the nation's sentiment if handed down through successive generations. The condition of the poorer classes seems in many respects scarcely bettered. The progress of education with the experience gained of local self-government and the organisation and management of numerous coöperative societies, &c., has failed to give that amount of self-enlightenment which is necessary to provide efficiency for the needs of the case. It seems as if the self-reliance and enterprise of at least a very considerable portion of the working classes are insufficient to overcome difficulties without help.

Poverty exists because men follow their lower instincts without due consideration. Civilisation in every respect is a struggle against the animal nature and the degree attained is proportionate to the amount of restraint exercised. The habitual drunkard, although condemned and despised by all professing good moral individuals, meets with their sympathy and benevolence, nay more, this very vice is one of the chief grounds used as an appeal for assistance towards the needs of a large family depending on him for support. Experience shows that the mass of mankind never judge moral questions for themselves and cannot or will not discriminate between right and wrong even when plainly told. The benevolent are equally culpable, aiding and abetting the drunkard's addiction to the vice, being too lazy to determine aright and too disinclined in the exercise of reason and judgment to put them to the test.

Everyone has a right to live. Many because of poverty's pinch could scarcely exist were it not for extraneous forms of help—i.e., parish relief or the doles of private benevolence. To give monetary assistance or in some measure to relieve the people of financial obligation, whether under the cloak of charity or in the nature of employment, without exacting a specified obligation in return, so that prudential motives shall act powerfully on them, is to benefit without attaining the object. When payment is made for work found as charity only inefficiency will be likely to be the result.

Before the Poor-law enactment facts were experimentally ascertained in scattered parishes of England whereby it was shown that the amount of support guaranteed could be freed from any injurious effects upon the minds and habits of the people if relief, though ample in respect of necessaries, was accompanied by conditions which they disliked, consisting of restraints on their freedom and foregoing some of their indulgences. Subsidies in aid of income enable the people to live with less remuneration by their efforts and in the long run lead to lowering of the standard of wages by the equivalent amount of subsidy. No extraneous assistance can be of the least benefit which does not operate on the minds and through the habits of the people. Thus "contract" practice, a form of subsidy, in giving professional services for almost nothing affects prejudicially the habits of the people. It is universally admitted that the amount is wholly inadequate in return and disproportionate to the possibilities of the people. It must either enable the people to live on lower wages, to gratify their indulgences, or to add to their comforts. If the standard of wages is lowered the employer of labour will probably be the chief beneficiary. In sequence, if wages are lower the standard of professional tariff will also be reduced. Thus, this form of practice subsidises the industries of the country at the cost of a tax on the whole profession; moreover, it is a grave source of evil, prejudicial to professional interests and morality, in conduct discreditable, and reprehensible for the honour of all concerned. Further, it is of no benefit to the people but quite the reverse, inasmuch as the incentive to exercise self-restraint is suppressed, while the stimulus to foster self-reliance is withdrawn, thereby deleting from the people's life those aspirations which make most for a nation's greatness. The cause of the whole mischief arising from this specified form of practice is the insufficient and unequal rate of remuneration. The fault lies, not in the principle, but in the system. It is impossible for the public alone to adjust the balance, therefore the profession must take the matter in hand and endeavour to coöperate with the public.

Three causes, then, combine to justify interference. 1. The conditions under which the profession is bound up with certain specified forms of contract practice are in many respects so bad that to tolerate them longer is scarcely possible, and that the *laissez faire* policy is not likely to bring about a cure. 2. Self-reliance is a powerful force, but not powerful enough to remedy unaided the evils that affect the profession. 3. The General Medical Council is more determined than ever to regulate the conduct of the profession consonantly with its best interests, and experience has shown that such regulation is neither inconsistent with its well-being or prosperity nor tends to undermine self-reliance nor operates prejudicially to the general welfare.

The principle of insurance seems still the more efficient method, but conducted on lines with necessary safeguards which at present do not generally apply. Even a wage-limit would not be a sufficiently wholesome restriction. Whatever system be adopted combination must be the basis and "pooling" the method of insurance by the people. On the other side, the profession must be in absolute agreement not only locally but generally. It is hopeless to expect, even with a most adaptable sliding scale of wage-limit, a satisfactory solution so long as the principle of "barter" is retained—that is, exchange by questionable means, a bad bargain, cheating. The proposition already stated, therefore, could not be acceptable, so that the resolution still stands. This practically amounts to an abolition of the whole system. Another amendment might probably meet the requirements of the case:—

> That club and friendly society contract work is undesirable in the best interests of both patients and the profession unless provision be made for payment of individual service according to a scale of fixed charges.

This proposition provides a method for outflanking two obstacles—viz., an annual compounding payment and a wage-limit—while it embodies two essential principles—namely, the independence of the medical attendant and payment for individual service. In operation this system might be modeled on the lines of the National Deposit Friendly Society under "medical pay" with this alteration—that one common fund be substituted into which all the contributions of the members should be "pooled" and from which all medical charges should be paid.

According to the thirty-third annual report of the National Deposit Friendly Society for the year ending Dec. 31st, 1901, out of 68,400 benefit members (compared with 56,120 in 1900) 13,067 drew medical pay to the amount of £8410, being an average of 12*s.* 1*d.* per *sick* member. As a basis for calculating the amount of individual contribution requisite to meet the charge of £8410, let the membership for the year 1900 (56,120) be taken as the total number entitled to full *financial* benefit for the year 1901; it gives 3*s.* per member per annum as the equivalent levy and, as seen, this is on a very liberal scale. The National Deposit Friendly Society admitting female members also may be taken as a fair sample for average club statistics. No scheme will ever be perfect and so this society has not commanded universal favour, but when compared with the payment of an annual dole ranging from 2*s.* 6*d.* in some districts to 6*s.* in others and given in the spirit of "make anything out of that you can," surely it is preferable.

The difficulty clinging round the solution of wage-limit is largely due to the fact that no friendly society can debar a candidate from membership on the ground of wealth alone. When once enrolled he can insist upon all the benefits, privileges, and rights which are extended to other members. Under the scale of the Eastbourne Provident Medical Association single members with a wage-limit of 20*s.* contribute 2*d.* per week, or 8*s.* 8*d.* per annum, and the lowest premium received in family membership is 1*d.*, or 4*s.* 4*d.* By comparison the advantage to the member would be much in favour of the "separate service" system. If the individual contribution were raised to, say, 5*s.*—and that surely would not entail any hardship—it would provide a liberal advance on the scale of

the National Deposit Friendly Society and no single service should command less than 2*s.* 6*d.* Compared with existing conditions the advantages should be obvious—independence, equity, efficiency, and general acceptance.

In the foregoing main principles only have been suggested; details have purposely been omitted, being considered secondary and liable, if stated, to obscure the main issues. Written with a suggestive object, in treatment this subject does not lay claim to originality in any part of the compilation, but it embodies a few generally accepted principles of ethics and economics. The irony of fate mocks every genuine effort in professional reform. True, money is at the root of this as of all evil, but yet the motive which inspires the movement and the object kept in view—'tis not for money's sake nor greed of gain, but to remove the curse, the evil deed that's done contingent on that need. In time the remedy will be found, not in an exhibition of supercilious self-unction, but in a generous application of unselfish deeds, each in his little sphere acting his humble part, with honest heart and ready hand, helping the other to lead the best professional life—the highest privilege of professional brotherhood.

THE NOBEL PRIZE FOR MEDICINE, 1902.

As our readers are aware the Nobel Prize for Medicine in 1902 was awarded to Major Ronald Ross, C.B., F.R.S., Lecturer on Tropical Medicine, University College, Liverpool. An address was delivered by Professor Count Morner, Rector at the Caroline Institute, Stockholm, on the occasion of the award, of which the following is a translation:—

Among the stipulations Alfred Nobel set forth in his will on which the Nobel foundation is based that concerning the international character of the prizes occupies an important place. This proves not only his love of mankind and his wish, induced thereby, that we should regard one another as brethren, but it also is a witness of his extensive and prescient views, especially concerning medical science and its advancement.

All the branches of medical science and their promoters in different countries have ultimately the same aim, that of gaining the most thorough knowledge possible, both about the human body and the processes in it, as also about the noxious influences and the means for their prevention. All medical workers unite their forces in pursuing that aim and in doing so feel members of one great fellowship. Nevertheless, the different fields of medical science lie at such distance one from another, that the individual worker on many occasions must look afar in the attempt to get a thorough view of the progress of the work.

With respect to diseases, they are often of different kinds and importance in divers regions of the world. For instance, malaria is nowadays of little importance here in Sweden, whereas it is a veritable scourge in other regions. For elucidating this question by an instance from a European country it may be mentioned that in Italy of late the annual average deaths from malaria have been about 15,000 and the yearly number of the cases is calculated as about 2,000,000. Still more overwhelming are the numbers from India. Of the British army, amounting to about 178,000 men, close upon 76,000 men were admitted into hospital for malarial fever in the year 1897. In this single year the mortality from "fever" among the civil population in India amounted to a huge total, it being a well-known fact that malaria dominates so severely vast territories that it causes the very greatest difficulties for the cultivation of lands which but for malaria are specially favoured by nature.

The questions of the real nature of malaria, its origin, its manner of entering the organism, and the consequent question of the possibility of preventing this disease, are all of the greatest importance and have from remote ages occupied investigators for a long time without success. A very important discovery concerning malaria was made rather more than 20 years ago when Laveran, a French army surgeon, ascertained that malaria is a parasitic disease caused by a very low form of animal life which he found in the blood of malarious patients. By this discovery the name of Laveran has for ever become renowned in the history of malaria. Research about malaria in the last two decades has chiefly been based on Laveran's discovery. Science has thereby been enriched with many an important fact. We have gained knowledge of the different forms of the malarial parasite in blood. We have found that it differs in the special forms of the disease. We have learned the relations between the parasite and the red blood corpuscles in which it is chiefly to be found. We have furthermore been able to survey the manner in which it multiplies in the blood; the Italian investigator Golgi has in this respect revealed the remarkable fact that the periodicity of the malarial attacks depends on the appearance of new generations of the parasite in the blood. We have, moreover, found allied parasites in the blood of several mammals and birds.

The important question, previously mentioned, as to the possibility of the malarial parasite living outside the body and its way of obtaining entrance into the blood remained unanswered. For some reasons, among others owing to various facts that were known concerning other parasites of an animal nature, it was supposed that the malarial parasite in some way leaves the blood so as to exist in some form in nature, probably as a parasite of another creature. As nothing indicated that the parasite was to be found in the secretions or excretions, it was suggested that suctorial insects might assist in carrying the parasite to a place where it had to pass the aforementioned part of its life-cycle. Attention was therefore directed to the mosquito, which was thus supposed to spread the malarious infection. The importance of the mosquito in this respect has now been proved. In this case, as in several others, tradition anticipated science; it is even said that negroes in East Africa use the same name for the mosquito and for malaria.

The mosquito theory of malaria was introduced to science by King no less than 18 years ago. The theory, however, remained a conjecture founded only on some suggestions given by epidemiological observations. The attempts made in Italy in the early "nineties" with the aim of experimentally examining the theory, and eventually proving it to be true, gave results that seemed to be anything but encouraging and more likely to prevent the investigation from following this line.

A person whom we must deem of great merit concerning the solution of the problem is the English investigator, Patrick Manson. It was a change in the appearance of the parasite, which was sometimes observed to occur as the blood is shed, that Manson especially regarded as the first stage of its life outside the body. This phenomenon has afterwards been shown by the American pathologist MacCallum to imply an act of fecundation of the parasite. Manson was, moreover, guided by his experience regarding another parasite of the blood, a little worm (filaria), the transference of which from one part of its life-cycle to another he had found effected by the mosquito, and more particularly by certain species of the mosquito. By the views set forth on malaria, and by exciting expectation that the solution of the malaria problem was to be found in the direction he indicated, Manson gave impulse to the further testing of the mosquito theory and at last to its being established. Manson, who lived in England, had no opportunity of taking up the experimental work of the problem. The solution came from India.

It was an English army surgeon in India, Ronald Ross, who, impressed by Manson's induction, undertook the experimental testing of the matter. Critically arranging his experiments he caused mosquitoes that were hatched from larvæ in the laboratory to bite malarious patients, and endeavoured to follow the parasite in the body of the mosquitoes. The results of the first two years' labour, although assiduous and scrupulous, gave little promise of success. But in August, 1897, all at once he made vast progress towards his aim. While experimenting with another less common species of mosquito in the wall of its stomach he found bodies that very probably were an evolutionary stage of the human malarial parasite. Ross, being prevented by circumstances from pursuing his plan of studying the malarial parasite of man, continued his work with an allied malarial parasite of birds. The result was that he could not only confirm his discovery concerning human malaria as he found corresponding facts for the avian malaria, but he also in a short time succeeded in revealing the further development of the avian malarial parasite in the body of the mosquito. This development is briefly as follows. In the stomach of the mosquito at first a process of fecundation takes place. The form of the parasite thereby produced penetrates the stomach wall, imbedded in which it grows to bodies projecting like buttons from the outer surface of the stomach. In these bodies a large number of elongated organisms, "sporozoites," are formed. On the consequent bursting of the said bodies the "sporozoites" escape into the general body cavity of the mosquito and accumulate in the salivary or poison glands, which are in connexion with the proboscis, with which the bites of the insect are inflicted. A bite of the mosquito at that time inoculates the parasite, and if the individual is susceptible to the parasite this develops in the usual manner.

Ross's discoveries about malaria were immediately followed by a series of important works. Thus, the Italian investigator Grassi, in association with his colleagues Bignami and Bastianelli, proved that the human malarial parasite, not only in its early stage, already detected by Ross, but also in its further development, undergoes the same evolution that Ross described for the growth of the avian malarial parasite in the body of the mosquito. Grassi also has precisely defined the species of mosquito that are of import for the malaria of man. Many a valuable work besides these have been issued by Ross, by the Italian investigators, by Robert Koch, and by many others—works by which not only has our knowledge of the malarial parasite been enlarged, but this knowledge has been made useful in combating and preventing malarial disease.

The eminent scientific value of Ross's work, its importance as a basis for the success of the recent investigations into malaria, its rich contents as regards the art of medical practice, and especially hygiene, will be obvious from the above.

It is owing to these merits that the professional staff of the Caroline Medico-Chirurgical Institute have decided to allot the medical Nobel prize of this year to Ronald Ross.

ROYAL ARMY MEDICAL CORPS FUND.

THE second meeting of the committee of the Army Medical Services Fund for Perpetuating the Memory of Distinguished Officers (henceforward to be known as the "Royal Army Medical Corps Fund") was held at 68, Victoria-street, London, S.W., on Dec. 16th, when a permanent committee was elected, it being decided that the process of filling the places of those retiring should be automatic, the Director-General of the Army Medical Service being always the chairman. With regard to retired officers it was agreed that the present representatives—Surgeon-General J. B. C. Reade, C.B., K.H.S., Surgeon-General H. Skey Muir, C.B., and Lieutenant-Colonel J. F. Beattie—should retain their seats and that when vacancies occurred they should be filled by the votes of retired officers subscribing to the Fund. It was announced that Surgeon-General

Sir James A. Hanbury, K.C.B., A.M.S., had retired from the committee on account of his health. As regards officers on the active list it was agreed that the holders for the time being of the following appointments should be *ex-officio* members of the committee: the Deputy Director-General of the Army Medical Service (vice-chairman); the Deputy Assistant Director-General of the Army Medical Service; the principal medical officer of the First Army Corps; the principal medical officer of the Home District; the commandant of the Medical Staff College; the professor of hygiene, Medical Staff College; the quartermaster, Medical Store Depôt, Woolwich; and one junior captain of the Royal Army Medical Corps (not necessarily a member of their mess) to be elected by the officers of the Royal Army Medical Corps mess at Aldershot.

The question of a concise name for the Fund was then discussed. 43 designations had been proposed by subscribers, many of them of a lengthy character. The title, "Royal Army Medical Corps Fund," gained the largest number of supporters and it was resolved that the Fund should be called by that name.

The votes of subscribers to fix the amount of the annual subscription of officers on the active list were then taken. Out of a total of 339 votes 195 were in favour of £1 per annum and 144 in favour of one day's pay of each rank. The question of a reduction of subscriptions for lieutenants was negatived by the votes of officers of that rank.

A proposal by Colonel R. EXHAM, C.B., R.A.M.C., that a fund should be started to meet cases of distress among widows and children of deceased officers of the Corps was negatived, it being felt that the Royal Army Medical Corps Fund was not yet in a position to undertake such large financial matters as were involved in the proposal, but a proposition by Colonel J. J. MACNAMARA, R.A.M.C., that the Fund should take up the question of a compassionate fund for warrant officers, non-commissioned officers, and men of the Corps, and their wives and families on or off the strength, was agreed to in principle by the committee. The following sub-committee was appointed fully to consider and to report to the committee upon the subject and to deal in its report with such funds relating to the matter as already exist:—Surgeon-General Muir, C.B.; the principal medical officer of the First Army Corps; the commandant of the Medical Staff College; Lieutenant-Colonel Beattie; and the deputy assistant director-general of the Army Medical Service. The same sub-committee was also requested to draw up a report containing a scheme for the due administration of each of the objects embraced by the Fund, having regard to the existing conditions of certain funds and to the fact that retired officers have in many cases limited their subscriptions to certain objects.

In recognition of the efforts of the late Surgeon-General J. B. Hamilton, A.M.S., in behalf of the interests of the Royal Army Medical Corps, it was resolved that a brass memorial tablet to the memory of that officer should be erected at a cost not exceeding £20.

MEDICINE AND THE LAW.

The Medical Officer of the Ballachulish Slate Quarries.

REFERENCE has already been made in THE LANCET to the dispute between the directors of the Ballachulish Slate Quarries, Limited, and Dr. Lachlan Grant, of West Laroch, Ballachulish. Judgment has now been given by Lord Kyllachy, after hearing argument, upon the points at issue between the parties in the Outer House of the Court of Session. In contracting with the directors to act as medical officer to their quarrymen in return for a fixed salary Dr. Grant further agreed to accept a month's notice to terminate his services and also bound himself upon such termination to give up any local appointments and other practice in the immediate neighbourhood of Ballachulish. Notice of dismissal was given to Dr. Grant, but he has consistently contended that it was given arbitrarily and for no good cause and has consequently refused to carry out the agreement not to practise medicine any more in the locality. Several points were raised before Lord Kyllachy involving the right of the directors to sue (owing to changed relations between them and their men which have arisen in consequence of the dispute with Dr. Grant) and also as to the reasonableness of the restriction imposed. Lord Kyllachy, after considering his decision, gave judgment on Jan. 2nd against Dr. Grant, holding that he was bound by the agreement which he had made and ordered him to pay the expenses of the pursuers in the action.

Unsatisfactory Inquests.

We have before us accounts of two inquests taken from the *Bradford Daily Observer* of Dec. 16th and the *Keighley News* of Dec. 27th. These seem to show that whereas the London County Council and the coroner for South-west London are dissatisfied with the provisions of the law for the obtaining of medical evidence and the making of post-mortem examinations on the ground that they are insufficient, other coroners may regard post-mortem examinations and medical evidence generally as altogether unnecessary superfluities. In the one case a woman named Stirk was found dead in her husband's house. A medical man gave evidence that there were marks on her throat which might have been caused by fingernails, also a lump on the back, and another on the top of the head, and stated that these injuries or some of them might have been the cause of death and they might not. We do not wonder that the jury found that the evidence was insufficient to enable them to say whether the injuries caused were responsible for the death or whether the woman died from natural causes, but it will be remembered that without the coroner's instruction the medical man had no right to make a post-mortem examination. In the other case investigated at an inquest at Keighley police-station a man was found dying in the street, but as his body was not identified we cannot give his name. A witness who stated that he knew a man answering to his description was not taken to see the body and there was no medical evidence whatever. The *Bradford Daily Observer* thus concludes its account of these remarkable proceedings: "The coroner proceeded to read a verdict to the effect that the man died from natural causes and not from violence. This was agreed to by the jury as their verdict. The coroner at the conclusion of the inquiry said he hoped the press would not give undue prominence to the fact that there was no direct evidence of identification." The publication of this naïve request seems to be the best method of commenting upon the matter, but we would remind juries that it is for them, if they are dissatisfied with the medical evidence or the lack of it, to express their view and to insist upon the coroner obtaining the witness suggested by them.

METROPOLITAN HOSPITAL SUNDAY FUND.—At the Mansion House on Jan. 6th a meeting of the council of the Metropolitan Hospital Sunday Fund was held under the presidency of the Lord Mayor. Among those present were Sir William S. Church, Bart., K.C.B., President of the Royal College of Physicians of London, Sir William Broadbent, Bart., K.C.V.O., Sir E. Durning-Lawrence, M.P., Mr. C. E Tritton, M.P., Canon McCormick, Canon Rhodes Bristow, the Rev. Dr. Rigg, Mr. Wakley, and Mr. Thomas Bryant. Mr. J. Hampton Hale was elected to fill a vacancy on the general purposes committee; the members of other committees were re-elected and the honorary secretaries, the honorary solicitor, and the honorary auditors were re-appointed. Sir Edmund Hay Currie, the secretary to the Fund, referring to the distribution of surgical appliance orders and hospital letters, said that he should be glad if more members of the council would attend the special committee meeting in order that they might see the work that was being done. In his reply to a vote of thanks, the Lord Mayor said that a meeting would be held at the Mansion House on June 8th for the purpose of calling wider attention to the objects of the Metropolitan Hospital Sunday Fund, when he hoped to induce some speakers of great eloquence to address the meeting which would be reported and the proceedings published all over the country. 25 per cent. of the patients who attended the large hospitals in London and no less than 60 per cent. of the patients who attended the smaller hospitals came from districts outside London which contributed nothing whatever to the Fund. Of the 104,000 in-patients of the London hospitals last year 25,000 came from districts outside the 12-mile radius. The cost of treatment and maintenance of these patients was £150,000. Some 700 letters had been written to the country clergy on the matter but so far the replies had not been at all satisfactory.

THE LANCET RELIEF FUND.

Almoners. THIS Fund, which came into operation on the 1st of February, 1889, has for its Almoners the President of the Royal College of Physicians of London (Sir WILLIAM SELBY CHURCH, Bart., K.C.B., M.D. Oxon., F.R.C.P. Lond.), the President of the Royal College of Surgeons of England (Sir HENRY GREENWAY HOWSE, M.B. Lond., F.R.C.S. Eng.), the President of the General Medical Council (Sir WILLIAM TURNER, K.C.B., M.B. Lond., F.R.C.S. Eng. and Edin., F.R.S.), Mr. THOMAS WAKLEY, F.R.C.S. Eng., and Mr. THOMAS WAKLEY, jun., L.R.C.P. Lond., with Sir HENRY PITMAN, M.D. Cantab., F.R.C.P. Lond., as Honorary Auditor.

Scope of the Fund. FOR the guidance of those seeking assistance and of those desirous of recommending deserving cases, it may be useful to record that THE LANCET Relief Fund is sustained solely by the Proprietors of THE LANCET, who provide every January the sum of at least £300, which is administered free of cost, with the object of affording immediate pecuniary assistance to registered medical practitioners, or to their widows and orphans, in cases of distress and emergency, by the grant of money by way of loans free of interest, or gifts, as the circumstances of the various cases may require. In the case of widows and orphans, in order to come within the scope of the Fund, the death of the Husband or Father must have been of recent occurrence.

Chronic Cases ineligible. WHEN the Fund was inaugurated considerable misapprehension existed as to the precise objects for which it had been established, and, as a result, the majority of the earlier applications, being cases of *chronic* distress, and not coming, therefore, under the designation of *emergency*, could not be entertained. As the Almoners still receive applications for assistance for cases which are obviously of a *chronic* character, it is thought advisable to append a statement concerning cases of this nature which appeared in THE LANCET of Feb. 16th, 1889:—

"We are requested by the Almoners to state that, from the character of a number of the applications received, both personally and by letter, for relief, it is evident that in many cases the object for which this Fund has been established is not quite clearly understood; and if relief had been afforded in the cases of those who suffer from chronic distress the Fund would have been completely exhausted within the first few days of its existence. They would therefore be greatly obliged if those readers of THE LANCET who may be asked to endorse applications would carefully peruse the Application Form and explain the precise object of the Fund to those applicants whose cases do not seem to come within the scope of the purpose for which the Fund has been established, which is to afford prompt aid to registered medical practitioners, or to the widows or orphans of members of the profession, who, in consequence of the supervention of some unexpected emergency, which is not likely to recur, have pressing need of immediate and temporary pecuniary relief"—

And who, it may be again pointed out, are likely to be permanently benefited thereby.

FOURTEENTH ANNUAL REPORT of the ALMONERS

For the year ending December 31, 1902.

IN presenting their Fourteenth Annual Report, the Almoners have to record that the balance in hand on Dec. 31st, 1901, was £239 7*s.* 4*d.*, to which, on Jan. 1st, 1902, the Proprietors of THE LANCET added the sum of £300, making, with £42 repaid on loans, a total sum of £611 7*s.* 4*d* available for grants during the year 1902.

The number of applications for assistance received by the Almoners during the year was 73—a falling off of nine as compared with those received in the previous year—of which 27 were so obviously outside the scope of the Fund that they were rejected by the Secretary by virtue of the discretionary power conferred upon him by the Almoners at their meeting on Jan. 1st, 1890; 11 were rejected by the Almoners after due consideration; in 11 cases Forms were sent but were not returned—probably the applicants recognised that their cases were outside the scope of the Fund; and 24 applicants were relieved by gifts of money ranging from £5 to £30. No loans were granted during the year. The relief of the 24 cases, a detailed list of which is given in the accompanying Statement of Accounts, involved the expenditure of the sum of £318—a sum just above the normal income of the year, omitting balances brought forward and possible receipts from loans.

Letters continue to be received by the Almoners from some of those whom they have helped, expressing their gratitude for the relief which has enabled them to mitigate, and in not a few cases to overcome, their difficulties, and thus testifying to a gratifying feature in the administration of the Fund. As an instance of this, and one typical of many, may be cited a communication received from Case No. 560, in which the recipient of relief says: "The gift will be such a help to me in my terrible trouble. What I should have done without it I dare not pause to think."

The promptness of the relief afforded to applicants is also a feature to which the Almoners continue to give their particular attention; and in this connexion it may not be uninteresting to record the fact that on several occasions the Almoners have been able to consider cases and to grant relief on the actual day on which the application was received. Case No. 536 wrote: "It was doubly welcome, because so prompt."

In their Report last year the Almoners referred to the gradually decreasing number of loans advanced from the Fund, pointing out that they were becoming more and more averse to affording assistance by this means, as their experience was that in but very few cases were loans ever repaid. Consequently, no relief by means of loans was afforded last year; but the Almoners record with satisfaction that during the period under review loans to the amount of £42 were repaid. The

repayment of one loan (Case No. 336, granted in 1896) was accompanied by a note stating that "I must thank the Almoners again for their great kindness in the past; I am very anxious to send it back to-night, because I am ill." The Almoners have also received a communication from the West Indies from the widow of a medical man, announcing his death, and expressing her desire to repay a loan which her husband had from the Fund in 1893.

There are still far too many applications received for assistance for what are obviously "chronic" cases, a large proportion of the 27 cases rejected by the Secretary coming under this heading. It cannot be too emphatically reiterated that THE LANCET Relief Fund exists to meet cases of *sudden emergency*, where timely help will tide the practitioner over his unforeseen (and too often unprovided for) difficulties, or afford his widow and orphans (alas, again too often unprovided for) a few weeks' respite from the more pressing financial cares of their unhappy position.

In conclusion, the Almoners desire to state that they will at all times be glad to have their attention called to any cases of genuine distress coming within the scope of the Fund; but they trust that those recommending cases or giving testimonials will first take steps to satisfy themselves of the *bona fides* of such cases before endorsing them. In the administration of such a Fund as this the Almoners are of necessity largely guided in their decisions by the testimonials accompanying the applications.

(Signed)

W. S. CHURCH (Chairman). H. G. HOWSE.
THOMAS WAKLEY.
WM. TURNER. THOMAS WAKLEY, Jun.

THE LANCET RELIEF FUND.

STATEMENT OF ACCOUNTS FOR THE YEAR ENDING DEC. 31st, 1902.

DR.	£	s.	d.	CR.	£	s.	d.	£	s.	d.
To Balance at the London and Westminster Bank, Limited (Westminster Branch), Jan. 1st, 1902	269	7	4	By Gifts:—						
,, Proprietors of THE LANCET, Jan. 1st, 1902 ...	300	0	0	Case No. 533	8	0	0			
,, Repayment of Loans:—				,, 535	20	0	0			
Case No. 336 ... £12 0 0				,, 536	5	0	0			
,, 513 ... 30 0 0				,, 538	10	0	0			
	42	0	0	,, 539	20	0	0			
,, Case No. 565. Cheque unpresented	10	0	0	,, 540	10	0	0			
				,, 541	10	0	0			
				,, 542	10	0	0			
				,, 543	5	0	0			
				,, 544	5	0	0			
				,, 545	10	0	0			
				,, 546	15	0	0			
				,, 549	20	0	0			
				,, 551	10	0	0			
				,, 552	10	0	0			
				,, 553	15	0	0			
				,, 555	15	0	0			
				,, 556	30	0	0			
				,, 557	20	0	0			
				,, 560	20	0	0			
				,, 561	10	0	0			
				,, 562	20	0	0			
				,, 563	10	0	0			
				,, 565	10	0	0			
								318	0	0
				By Bank Charges:—Cheque Book, 4*s.* 2*d.*; Commission on Scotch Cheque (Case No. 336, repayment of loan), 3*d.*				0	4	5
				Balance at Bank, Dec. 31, 1902 ...				303	2	11
	£621	7	4					£621	7	4

I find by the Bankers' Book that the actual Balance on Jan. 1st, 1902, to the credit of the Fund was £269 7*s.* 4*d.*, to which the sum of £300 was added by the Proprietors of THE LANCET on Jan. 1st, 1902.

The balance at the Bank on Dec. 31st, 1902, was the sum of £303 2*s.* 11*d.* I have also checked the receipts for disbursements and find the above account strictly accurate.

January 2nd, 1903. HENRY A. PITMAN, Hon. Auditor.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

THE South-West London Medical Society convened a special meeting to consider the questions that have arisen in consequence of the action of Mr. John Troutbeck, coroner for the City of Westminster and the South-Western District, and this was held on Jan. 2nd in the drill hall of the 4th Volunteer Battalion East Surrey Regiment, Clapham Junction. The President of the society, Surgeon-Major M. Robinson, I.M.S., took the chair. The proceedings were followed with marked interest by an audience of 83 medical men from the surrounding districts.

The PRESIDENT commenced by observing that the novel proceedings of the new coroner in that district called for consideration. The action of Mr. Troutbeck in relation to post-mortem examinations had been before the council of the South-West London Medical Society and it had been thought advisable to obtain the opinion of counsel concerning Section 21 of the Coroners Act. The London County Council had thought fit to nominate a medical man as pathologist to assist coroners in special cases. Mr. Troutbeck was the only coroner who, as far as he knew, had to any great extent availed himself of this assistance, but instead of calling in the pathologist appointed by the London County Council in exceptional cases only Mr. Troutbeck had made it the rule to utilise the services of the pathologist in question—viz., Dr. L. Freyberger. If a coroner wished to have medical evidence it seemed, according to the Coroners Act, that he should call in the medical attendant on the case and if that gentleman was not available the Act seemed to direct that the coroner should call in some medical practitioner in the neighbourhood. It did not appear that Dr. Freyberger had been appointed by the London County Council by advertisement or by competition. No one objected to receive the aid of a pathologist in certain special cases but if a pathologist was called in the medical man in attendance on the case should also be present at the post-mortem examination.

The honorary secretary of the society, Dr. M. MACKINTOSH, then said that in consequence of communications received by him from members of the society, a special meeting of the council was held on Dec. 2nd. Correspondence explaining the matter was laid before the council and in consequence it was deemed necessary to obtain counsel's opinion on Section 21 of the Coroners Act and its subsections. For this purpose Mr. Hempson, solicitor to the Medical Defence Union, was instructed to obtain the opinion of counsel on the case. This was done and at an adjourned meeting held on Dec. 17th the case as submitted by Mr. Hempson and the opinion of Mr. M. Muir Mackenzie thereon were read to the meeting. Counsel was requested to advise: (1) as to whether the practice adopted by Mr. Troutbeck is in conformity with or in breach of his legal duties as His Majesty's coroner—and if counsel should be of opinion that he is acting in breach of his legal duties, (2) by whom and by what means can he be restrained from continuing thus to act, ; (3) generally in the circumstances.

The following is the opinion of Mr. Muir Mackenzie:—

1. The 21st section of the Coroners Act, 1887, confers powers and imposes duties on a coroner. If the deceased was attended in his last illness by a medical practitioner the coroner has power to summon the practitioner. If the deceased was not attended by a medical practitioner the coroner has power to summon as a witness any legally qualified practitioner who is at the time in actual practice in or near the place where the death happened. The coroner further has power, by Subsection (2) of the section, to direct "such" medical witness—that is to say, the practitioner who attended the deceased or a practitioner in practice in or near the place where the death happened—to make a post-mortem examination. Then the jury in the events specified in the third subsection have power to require the coroner to summon as a witness some other specified legally qualified practitioner and it is the duty of the coroner to comply with the requisition. Besides having the power to summon the medical witness specified in the enactment it is the duty of the coroner to do so when it is made to appear to him that the circumstances specified in the enactments exist. The words of subsection (1) are "may summon," while the words in subsection (3) are "shall comply." But although the word "may" in a statute *primâ facie* gives a discretion, if the statute in which it occurs is one which relates to public justice and is of general interest and concern, the word "may" is imperative, and imposes a duty. See the judgments in "Julius *v.* Oxford," 5 App. Cases, and see especially on page 240, and cases there cited. My opinion is, therefore, that the practice adopted by Mr. Troutbeck as detailed in the case is not in conformity with the statutory duties imposed on him.

2. The enactment does not, in my opinion, give to any medical practitioner whom the coroner ought to have summoned a right either to bring an action for damages or for an injunction against the coroner to restrain him from summoning Dr. Freyberger in future, or a right to apply for a second inquest and mandamus to the coroner to summon him as a witness at a second inquest. If owing to the coroner failing to summon the medical witnesses prescribed in the Act there were to be a miscarriage of justice the court would have power on application to it to quash the verdict and to order a new inquest to be held. See "*Re* Mitchelstown," 22 L. R. Ireland, 279; "Reg. *v.* Carter," 45 L. I. 2 B. 711. The question in each case, whether the court would exercise the power, would depend on the circumstances (see "R. *v.* Coulson," 55 I. P. 262). The Coroners Act, 1887, contains powers for the removal of a coroner by the Lord Chancellor for inability or misbehaviour. Further, if he is guilty of misbehaviour a coroner may be indicted for a misdemeanour and on conviction be removed. See Sections 8 and 35 of the Act. There is also a general power in the High Court to remove a coroner for misbehaviour or misconduct. See Jervis on Coroners, p. 94, and Section 35 of the Act, which preserves the old powers of the court. I cannot advise that the conduct of the coroner amounts to misbehaviour which would justify either an indictment of him or an application to the court to remove him. If the medical practitioners, who in my opinion justly and reasonably complain of the course which the coroner has adopted, desire to proceed in the matter my advice to them is in the first instance to represent the facts to the Lord Chancellor by an influentially signed memorial addressed to him.

Dr. MACKINTOSH also read the following letter from Dr. S. H. Snell:—

Glenshee Lodge, Wandsworth Common, S.W.,
Dec. 29th, 1902.

DEAR SIR,—I regret that a previous engagement prevents me from being present at the meeting on Friday next. About three weeks ago I was called out of bed by the police to a man whom I found to be dead in the shelter near here. I, of course, carefully noted the circumstances with a view to an inquest. I was somewhat surprised to read an account of this inquest later where medical evidence of the cause of death, &c., was given by a medical man in no way connected with the case.

Supposing that the coroner prefers his own man to do the post mortem surely the first evidence—namely, the circumstances and surroundings, &c., should be given by the medical man called in.

If this case bears on the object of the meeting I shall be pleased if you will quote it.

Yours faithfully,
SIDNEY H. SNELL.

M. Mackintosh, Esq.

The PRESIDENT said that there were several courses open for them to follow. There was the advice of counsel to approach the Lord Chancellor in regard to the conduct of the coroner. They could go to the London County Council and do what they could to induce that body to arrange matters with the coroner. They could also approach one of the medical protection societies and ask it to take the matter up. His view, however, was that in the first instance they had better go to the London County Council.

Mr. T. ARTHUR I. HOWELL (Vice-President of the society) then proposed the following motion:—

That this meeting of medical men summoned by the South-West London Medical Society on Jan. 2nd, 1903, while appreciating the great steps that the London County Council have taken in the interest of public health, view with great regret the action taken by the coroner of this district in practically giving all the post-mortem cases to a pathologist selected by the London County Council in direct opposition to the resolution of the Council which declares "it is desirable that post-mortem examination in inquest cases of a *special* nature should be intrusted to a specially skilled pathologist."

That this meeting further declares that it would welcome the assistance of a skilled pathologist in suitable cases but protests strongly against the way that this resolution has been interpreted in this district as it has practically superseded the medical attendant in ordinary cases, and this meeting respectfully asks the London County Council to give the matter their serious consideration.

He said that the opinion of counsel which had been read practically gave all the facts of the case. The wisest course in a matter of that kind was to go to work in a diplomatic manner and to approach in the first instance the London County Council with the request that it would take steps to see that its recommendation was carried out in the way that it intended, and not as the coroner had thought fit to interpret it. From a statement made by Sir William Collins, the chairman of the Public Control Committee, at the meeting of the London County Council on Dec. 16th, it appeared that the recommendation approved by the Council was as follows:—

That all coroners be informed that in the opinion of the Council it is desirable that post-mortem examinations in inquest cases of a special nature should be intrusted to a specially skilled pathologist.

No medical man would fail to avail himself of such assistance because it was not only in the interest of the medical profession but it was also in the public interest that such a course should be followed. He contended that that very reasonable recommendation had been carried out in a manner that practically resulted in direct opposition to it. Within the last few months, out of 23 inquest cases in

Battersea, Dr. Freyberger had been called in for 16 cases. They all knew that there could not have been 16 inquest cases of a special nature out of 23. If it were so then Battersea must be a most extraordinary place. Sir William Collins had also said that "the Public Control Committee did not contemplate that the medical attendant on the deceased would be superseded in ordinary cases." Mr. Howell, continuing, said that he thought the experience in Battersea showed that the ordinary medical attendant had been superseded. His opinion was that they should go first to the London County Council with the courteous motion that he had proposed and he was sure they would receive a sympathetic reception. They could show the London County Council that its recommendation had not been interpreted in the way that any reasonable man would read it, and then if the Council would not help them they must consider some other means of dealing with the matter.

Dr. L. S. MCMANUS said that the coroner, Mr. Troutbeck, had not followed the ordinary ethics of decent society in his dealings with the medical men in that district. The Battersea borough council had written to the London County Council concerning Dr. Freyberger and had received an answer stating that Dr. Freyberger had not been appointed pathologist to the Council and it was incorrect so to describe him. He concluded by seconding Mr. Howell's motion.

Mr. W. H. P. HILL said that 41, Regent's Park-road (the residence of Dr. Freyberger) could not possibly be included in the district of Battersea unless the whole of London was to be absorbed into Battersea. In his opinion the proper man to call in was a medical man from the neighbourhood. Why, he asked, should they have imposed upon them a gentleman who had practically never been heard of before?

Dr. J. MYLES said that the practitioners had deserved the treatment they had received because they were apathetic and indifferent to their rights.

Mr. LENNANE said that Mr. Troutbeck was the only coroner who had adopted the system complained of. In his opinion the average general practitioner was quite capable of carrying out post-mortem examination in an ordinary case.

Dr. HUGH WOODS said that the subject had been brought before the council of the London and Counties Medical Protection Society, which was of the unanimous opinion that the conduct of Mr. Troutbeck was wrong, and the council was ready to take up the rights of the medical practitioners concerned. If a medical man was called to a case which afterwards became an inquest case he might find if he were not at the inquest that his character had been damaged. The medical man should be present at the post-mortem examination or duly represented there, otherwise he might be landed in a position disastrous to his practice. He had a right to be present at the post-mortem examination and at the inquest.

Mr. E. W. ST. V. RYAN pointed out that the practice of the coroner accepting mere theories of causes of death framed by a pathologist who had not the advantage of knowing the facts of the case in the same way as an ordinary medical attendant had would sooner or later end in a miscarriage of justice.

Mr. J. B. HOWELL suggested that the best course would be to approach the Lord Chancellor.

Mr. M. I. FINUCANE agreed with the last speaker and pointed out that the coroner was merely a judicial officer under the Lord Chancellor. He considered that it was folly to have procured counsel's opinion and then not to act on it.

Mr. JOHN GAY urged the meeting to accept the motion proposed by Mr. Howell because in that way they would get what they wanted by applying to the authority which had issued the instructions to which they objected. The best way was to try the simplest method first.

Dr. BEDFORD FENWICK advised the meeting to come to some definite conclusion as to who was to be intrusted with the carrying out of the motion if it was passed.

Dr. W. G. DICKINSON said that whoever was intrusted with the matter must have definite instructions.

Dr. M. G. BIGGS pointed out that if they were unsuccessful with the London County Council they could then go to the Lord Chancellor.

Mr. P. M. YEARSLEY supported the last speaker.

The motion was then put to the meeting and duly carried.

On the suggestion of Mr. GAY it was agreed that the council of the South-West London Medical Society should be intrusted with the duty of approaching the London County Council with the resolution and should be empowered to attend with a deputation to explain the circumstances of the case.

The proceedings terminated by the appointment of Mr. James B. Howell as honorary treasurer for a special fund to be devoted to defraying the expenses incurred in this matter. It was hoped that by an appeal in the medical journals the profession generally would help.

The meeting ended with a cordial vote of thanks to the President.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

DURING the week ending Dec. 27th, 1902, 6057 births and 4826 deaths were registered in 76 of the largest English towns. The annual rate of mortality in these towns, which had been 19·6 per 1000 in each of the two preceding weeks, declined to 16·9 per 1000. In London the rate of mortality was 16·6 per 1000, while it averaged 17·1 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 4·8 in Hornsey, 7·2 in Walthamstow, 8·7 in Hastings, 9·4 in Willesden and in Handsworth, 10·7 in Barrow-in-Furness, 10·9 in Coventry, and 11·3 in Burton-on-Trent; the highest rates were 21·8 in Liverpool and in Rhondda, 22·5 in Hull, 22·9 in West Bromwich, 23·2 in Stockton-on-Tees, 23·3 in Reading, 23·4 in Hanley, 24·4 in Bootle, and 26·6 in Merthyr Tydfil. The 4826 deaths in these towns included 493 which were referred to the principal infectious diseases, against 563, 593, and 620 in the three preceding weeks; of these 493 deaths 159 resulted from measles, 91 from whooping-cough, 76 from diphtheria, 63 from scarlet fever, 62 from diarrhœa, 31 from "fever" (principally enteric), and 11 from small-pox. No death from any of these diseases was registered in Willesden, Hornsey, Bournemouth, Coventry, Warrington, Rochdale, Barrow-in-Furness, Huddersfield, Rotherham, Gateshead, or Swansea; while the highest death-rates from these infectious diseases were recorded in Hanley, Burton-on-Trent, West Bromwich, Smethwick, Oldham, Hull, and Newport (Mon.). The greatest proportional mortality from measles occurred in Hastings, West Bromwich, Smethwick, Bolton, Salford, Hull, Tynemouth, and Newport (Mon.); from scarlet fever in Birkenhead; from diphtheria in Hanley, Smethwick, and West Hartlepool; from whooping-cough in Croydon, Tottenham, Northampton, Hanley, Oldham, and Cardiff; from "fever" in Wallasey; and from diarrhœa in Wolverhampton. Of the 11 fatal cases of small-pox registered in these towns two belonged to Stockport, two to Bootle, two to Burnley, and one each to Liverpool, Bury, Oldham, Leeds, and Merthyr Tydfil. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 17, 17, and 21 at the end of the three preceding weeks, declined again to 17; no new case was admitted during the week, the numbers admitted during the three preceding weeks having been six, one, and five respectively. The number of scarlet fever cases in these hospitals and in the London Fever Hospital, on Saturday, Dec. 27th, was 2528, against numbers declining from 2900 to 2487 on the seven preceding Saturdays; 205 new cases were admitted during the week, against 265, 250, and 279 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 370, 399, and 409 in the three preceding weeks, declined again to 343, and were 165 below the corrected average number. Influenza was stated as the primary cause of 28 deaths in London, the numbers in the three preceding weeks having been 13, 21, and 37. The causes of 73, or 1·5 per cent., of the deaths registered in the 76 large towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Salford, Bradford, Leeds, and in 40 other smaller towns; the largest proportions of uncertified deaths were registered in Smethwick, Liverpool, St. Helens, Warrington, Preston, Middlesbrough, and South Shields.

In 76 of the largest English towns 9407 births and 5705 deaths were registered during the week ending Jan. 3rd. The annual rate of mortality in these towns, which had been 19·6, 19·6, and 16·9 per 1000 in the three preceding weeks, rose again last week to 20·0 per 1000. In London the death-rate was 20·9 per 1000, while it averaged 19·6 in the 75 other large towns. The lowest death-rates in these towns

were 8·3 in Hornsey, 10·3 in Handsworth, 11·6 in Derby, 12·0 in King's Norton, 12·6 in Leyton, 12·9 in Northampton, 13·6 in West Hartlepool, and 14·0 in Middlesbrough; the highest rates were 25·3 in Bootle, 25·5 in Hull, 26·1 in West Bromwich, 26·8 in Oldham, 27·1 in Stockport, in Wigan and in Tynemouth, and 39·4 in Newport (Mon.). The 5705 deaths in these towns last week included 603 which were referred to the principal infectious diseases, against 593, 620, and 493 in the three preceding weeks; of these 603 deaths 174 resulted from measles, 123 from whooping-cough, 98 from diphtheria, 84 from diarrhœa, 57 from scarlet fever, 55 from "fever" (principally enteric), and 12 from small-pox. No death from any of these diseases was registered last week in Hornsey, Wallasey, Halifax, or Stockton-on-Tees; in the other towns they caused the lowest death-rates in Plymouth, Northampton, Nottingham, St. Helens, Gateshead, and Newcastle-on-Tyne; and the highest rates in Hanley, West Bromwich, Stockport, Wigan, Hull, Middlesbrough, and Newport (Mon.). The greatest proportional mortality from measles occurred in Hastings, West Bromwich, Salford, Blackburn, Hull, and Newport (Mon.); from scarlet fever in Walsall, West Bromwich, and Wigan; from diphtheria in Reading, Hanley, Bury, Oldham, and Preston; from whooping-cough in in Willesden and Grimsby; from "fever" in Portsmouth; and from diarrhœa in Hanley, West Bromwich, and Coventry. Four fatal cases of small-pox were registered in Stockport, three in Liverpool, and one each in Hanley, Bolton, Huddersfield, York, and Merthyr Tydfil, but not one in any other of the 76 large towns. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been 17, 21, and 17 at the end of the three preceding weeks, had further declined to 14 at the end of last week; one new case was admitted during the week, against one, five, and none in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday, the 3rd inst., was 2378, against 2565, 2487, and 2528 on three preceding Saturdays; 214 new cases were admitted during the week, against 250, 279, and 205 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 399, 409, and 343 in the three preceding weeks, rose again last week to 415, but were 93 below the corrected average number. Influenza was stated to be the primary cause of 37 deaths in London last week, against 21, 37, and 28 in the three preceding weeks. The causes of 76, or 1·3 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. The causes of all the deaths were certified in Leicester, Nottingham, Salford, Bradford, Leeds, and 44 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Warrington, Blackburn, Halifax, Sheffield, Sunderland, South Shields, and Gateshead.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns the annual rate of mortality, which had been 18·5, 19·9, and 21·1 per 1000 in the three preceding weeks, further rose to 21·3 per 1000 during the week ending Saturday, Dec. 27th, 1902, and was 4·4 per 1000 above the mean rate during the same period in the 76 large English towns. The death-rates in these towns ranged from 17·5 in Aberdeen and 18·3 in Dundee to 23·0 in Glasgow and 23·7 in Paisley. The 688 deaths in these towns included 20 from whooping-cough, 18 to diarrhœa, six from measles, six from diphtheria, six from "fever," and three from scarlet fever. In all, 59 deaths were referred to these principal infectious diseases, against 64, 72, and 68 in the three preceding weeks. These 59 deaths were equal to an annual rate of 1·9 per 1000, which was 0·2 per 1000 above the mean rate from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 16, 31, and 32 in the three preceding weeks, declined again to 20, of which 16 occurred in Glasgow and two in Dundee. The deaths from diarrhœa, which had been 20 and 15 in the two preceding weeks, rose again to 18, and included 11 in Glasgow, three in Aberdeen, and two in Edinburgh. The fatal cases of measles, which had been seven and five in the two preceding weeks, rose again to six, of which two occurred in Glasgow, two in Edinburgh, and two in Aberdeen. The deaths from diphtheria, which had been nine, nine, and four in the three preceding weeks, rose again to six, and included three in Glasgow, where five of the six fatal cases of "fever" also were registered. The deaths referred to diseases of the respiratory organs in these towns, which had been 133, 141, and 170 in the three preceding weeks, further increased to 193, and were 27 in excess of the number in the corresponding period of last year. The causes of 33, or nearly 5 per cent., of the deaths registered in these eight towns were not certified.

The annual rate of mortality in eight of the principal Scotch towns, which had risen from 18·5 to 21·3 per 1000 in the four preceding weeks, further increased to 21·6 per 1000 during the week ending Jan. 3rd, and was 1·6 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 17·0 in Perth and 18·1 in Aberdeen to 23·3 in Glasgow and 27·8 in Greenock. The 707 deaths in these towns included 33 which were referred to whooping cough, 14 to diarrhœa, 13 to diphtheria, 10 to measles, four to "fever," and three to scarlet fever, but not one small-pox. In all 77 deaths resulted from these principal infectious diseases last week, against 72, 68, and 59 in the three preceding weeks. These 77 deaths were equal to an annual rate of 2·4 per 1000, which was 0·3 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping cough, which had been 31, 32, and 20 in the three preceding weeks, rose again last week to 33, of which 26 occurred in Glasgow, four in Edinburgh, and two in Dundee. The deaths from diarrhœa, which had been 15 and 18 in the two preceding weeks, declined again to 14 last week, and included seven in Glasgow, two in Edinburgh, two in Paisley and two in Leith. The fatal cases of diphtheria, which had been four and six in the two preceding weeks, further increased last week to 13, of which four were registered in Glasgow, four in Edinburgh, two in Dundee, and two in Perth. The deaths from measles, which had been seven, five, and six in the three preceding weeks, further rose to 10 last week and included eight in Aberdeen. The fatal cases of "fever," which had been six in each of the two preceding weeks, declined last week to four, of which two occurred in Greenock. The three deaths from scarlet fever corresponded with the number in the preceding week and included two in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 141, 170, and 193 in the three preceding weeks, declined again last week to 158, and were 34 below the number in the corresponding period of last year. The causes of 39, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin during the week ending Dec. 27th, 1902, was 24·6 per 1000, against 25·9, 29·2, and 30·8 in the three preceding weeks. During the previous 13 weeks the death-rate had averaged 27·5 per 1000, the rates during the same period being 17·4 in London and 17·1 in Edinburgh. The 179 deaths of persons belonging to Dublin registered during the week under notice showed a decline of 45 upon the number in the preceding week, and included 21 which were referred to the principal infectious diseases, against 16, 22, and 20 in the three preceding weeks; of these seven resulted from measles, four from "fever," four from diarrhœa, three from diphtheria, two from scarlet fever, and one from whooping-cough. These 21 deaths were equal to an annual rate of 2·9 per 1000, the death-rate from the same diseases being 1·5 per 1000 both in London and in Edinburgh. The fatal cases of measles, which had been nine, 10, and nine in the three preceding weeks, further declined to seven. The deaths referred to different forms of "fever," which had been three, five, and four in the three preceding weeks, rose again to four. The fatal cases of diarrhœa, which had been one, five, and three in the three preceding weeks, rose again to four. The mortality from both scarlet fever and diphtheria showed a slight increase upon that recorded in recent weeks. The 179 deaths in Dublin included 30 of children under one year of age and 36 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a a marked decline from the numbers in the preceding week. 12 inquest cases and nine deaths from violence were registered; and 77, or 43 per cent., of the deaths occurred, in public institutions. The

causes of 11, or more than 6 per cent., of the deaths were not certified.

The death-rate in Dublin, which had been 29·2, 30·8, and 24·6 per 1000 in the three preceding weeks, rose again to 29·4 per 1000 during the week ending Jan. 3rd. During the past 14 weeks the death-rate has averaged 27·6 per 1000, the rates during the same period being 17·7 in London and 17·2 in Edinburgh. The 214 deaths of persons belonging to Dublin registered during the week under notice showed an excess of 35 over the number in the preceding week, and included 23 which were referred to the principal infectious diseases, against 22, 20, and 21 in the three preceding weeks; of these, nine resulted from measles, four from scarlet fever, four from diphtheria, three from diarrhœa, two from "fever," and one from whooping cough. These 23 deaths were equal to an annual rate of 3·2 per 1000, the death-rates last week from these diseases being 2·1 in London and 1·8 in Edinburgh. The fatal cases of measles, which had been 10, nine, and seven in the three preceding weeks, rose again to nine. The deaths from scarlet fever, which had been one and two in the two preceding weeks, further increased to four last week. The four fatal cases of diphtheria showed a slight increase upon the number in the preceding week. The deaths from "fever," which had been five four, and four in the three preceding weeks, further declined to two last week. The fatal cases of diarrhœa, which had been five, three, and four in the three preceding weeks, declined again last week to three. The 214 deaths in Dublin last week included 37 of children under one year of age and 57 of persons aged upwards of 60 years; the deaths of infants showed a slight increase, while those of elderly persons were more than 50 per cent. in excess of the number in the preceding week. Five inquest cases and 11 deaths from violence were registered; and 71, or more than a third, of the deaths occurred in public institutions. The causes of 17, or nearly 8 per cent., of the deaths in Dublin last week were not certified.

THE SERVICES.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel T. B. A. Tuckey retires on retired pay. Dated Jan. 3rd, 1903. Lieutenant-Colonel Ulick J. Bourke retires on retired pay. Dated Jan. 7th, 1903. Major R. G. Thompson retires on retired pay. Dated Jan. 7th, 1903.

Captain T. H. Goodwin, D.S.O., has joined at Woolwich. Lieutenant J. C. Furness, R.A.M.C. (Militia), assumes medical charge of the 1st Army Corps Staff, Army Pay Department, Fire Brigade, Military Police, Army Chaplains' Department, &c. Lieutenant-Colonel J. Hickman proceeds to Gravesend for duty. Captain K. M. Cameron joins at Woolwich. Major G. Bray has been ordered to join the Western District. Lieutenant F. G. Richards, on arrival in India from South Africa, is posted to the Station Hospital, Poona, for duty. Major C. S. Sparkes proceeds to Aldershot for duty. Lieutenant-Colonel W. L. Reade assumes medical charge at Weedon, vice Major Sparkes.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 2nd Middlesex: Surgeon-Lieutenant D. J. Duhig resigns his commission. Dated Dec. 22nd, 1902. 1st Newcastle-on-Tyne: Surgeon-Lieutenant G. N. Wilson resigns his commission. Dated Jan. 7th, 1903.

Rifle: 4th Volunteer Battalion the Royal Scots (Lothian Regiment): John Tarrat Titterton to be Surgeon-Lieutenant. Dated Jan. 7th, 1903. 2nd (Prince of Wales's) Volunteer Battalion the Devonshire Regiment: The undermentioned officer resigns his commission:—Surgeon-Captain A. R. Rendle. Dated Jan. 7th, 1903. 2nd Volunteer Battalion the East Yorkshire Regiment: Surgeon-Major A. F. A. Fairweather retires under paragraph 111 Volunteer Regulations, with permission to retain his rank and to wear the uniform of the battalion on retirement. Dated Jan. 7th, 1903. 4th (Nottinghamshire) Volunteer Battalion the Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): Surgeon-Captain W. T. Crawford resigns his commission. Dated Jan. 7th, 1903. 6th Volunteer Battalion the Manchester Regiment: Surgeon-Major R. T. Sparrow to be Surgeon-Lieutenant-Colonel. Dated Jan. 7th, 1903. 2nd Volunteer Battalion the Highland Light Infantry: The notification which appeared in the *London Gazette* of Dec. 19th, 1902, appointing John Freeland Fergus Second Lieutenant, to be cancelled, and the following substituted:—John Freeland Fergus to be Surgeon-Lieutenant. Dated Dec. 20th, 1902.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Edinburgh Company: David Waterston to be Lieutenant. Dated Jan. 7th, 1903.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

2nd London: Surgeon-Captain J. N. Brown, from the 5th (West) Middlesex Volunteer Rifle Corps, to be Captain, and to command under paragraph 55a Volunteer Regulations (dated Dec. 23rd, 1902); Surgeon-Lieutenant E. C. Montgomery-Smith, from the 5th (West) Middlesex Volunteer Rifle Corps, to be Lieutenant (dated Dec. 23rd, 1902).

THE ARMY MEDICAL SYSTEM.

We have received a copy of a little pamphlet on "The Army Medical System, what it is, is not, and ought to be, by One who Knows." It is published by Sands and Co., 12, Burleigh-street, Strand, and its price is 1*s*. As will be seen, its author does not give his name. As it consists of only 90 pages it is easily read through, but it must not be imagined on that account that the limited space given to their consideration affords any indication of the radical changes and reforms in the army medical system which are advocated, for these, if carried out, would altogether reconstruct the medical service. Within the compass of 90 pages the author manages to touch upon, or to pass in review, a large number of subjects and he shows very plainly that he is opposed to the present system. He adversely criticises the practice of getting rid of the inefficient soldier as soon as possible by invaliding him. He would have hospitals divided or separate buildings provided for the reception of serious cases of sickness and convalescents and would conduct the former on the lines of a civil hospital officered by the more highly professionally skilled army surgeons. He holds that a man cannot be a military man and discharge purely military duties and be at the same time an expert surgeon or physician. The key-note of the pamphlet is, we take it, to develop and to exalt everything appertaining to the strictly medical and scientific side of a medical officer's duties and to pay much less heed to those of a purely military nature than, as he alleges, is now the case. "Until," he says, "it is realised that it is imperatively necessary to separate the true surgeon or physician from the military man, to separate the soldier nurse from the cook nurse or clerk nurse and to adopt measures to carry out the same, no reform really worth having can ever be anything else than a downright failure." He summarises his conclusions at the end of his pamphlet under nine heads and urges the taxpayer to study the subject for himself.

RECRUITING FOR THE ARMY.

We have for many years past called attention to the defective arrangements existing at our army recruiting depôts. Some of these are little short of a disgrace. So far from these depôts being attractive and presenting inducements to young men to enter the service they are far more likely to be repelled by the position of these buildings in some back street or other and by the nature of the accommodation provided inside them. We have always contended that recruiting offices should occupy airy and prominent positions in some of the main streets and not in the slums of a city or town, and that their inside accommodation should be made as attractive, clean, and comfortable as possible. In fact, everything should be done to maintain, and to increase if possible, the self-respect of the intending soldier and to exalt the position of the army in his eyes. It is time that something should be done and we are glad to learn that the subject is at last engaging the attention of the Secretary of State for War.

CONCENTRATION CAMPS IN SOUTH AFRICA AND THE PHILIPPINES.

We learn on the authority of the *Army and Navy Gazette* that the concentration camps which have been established in certain provinces of the Philippines by General J. F. Bell, U.S.A., have been denounced as furiously as our own concentration camps were in South Africa. It has been proved, however, and is admitted by the native physicians, that the occupants of these camps have enjoyed a far larger measure of health, comfort, and safety than they would have done in their own homes. Our service contemporary also calls attention to the fact that Dr. Lair of the Pasteur Institute of

Paris, as the result of his personal observations, states that these camps in South Africa were clean, comfortable, and well supplied with food and medicines and in some instances were more comfortable than the quarters of the British troops. The Boers themselves freely admitted that the so-called cruelties never had any existence. Dr. Lair's report seems to have attracted a good deal of attention in the United States.

BRITISH NATIONAL SOCIETY FOR AID TO THE SICK AND WOUNDED IN WAR.

The report by this society of its operations in connexion with the Transvaal war of 1899–1902 has just been issued from the offices of the society, 5, York-buildings, Adelphi, London, W.C. It will be remembered that in addition to the work of supplying medical stores and other things necessary for the treatment of the sick and wounded this society sent to South Africa the *Princess of Wales* hospital ship and the *Princess Christian* hospital train. Accounts of both these auxiliaries to the treatment of the wounded are given in the society's report and there is much interesting matter relating to the general working of the society. Referring to Dr. C. W. J. Chepmell's work in Natal the report says, "the most notable incident was the able manner in which he organised a bullock transport to Ladysmith in anticipation of the raising of the siege of the place, by which the Red Cross stores were the first to be delivered, and almost immediately after the relief column had arrived in that town."

RETIREMENTS IN THE ARMY MEDICAL SERVICE IN 1903.

Among the retirements which will take place in the Army Medical Service in the course of the present year we notice the names of Surgeon-General W. S. M. Price, Surgeon-General Sir W. D. Wilson, K.C.M.G., Surgeon-General G. J. H. Evatt, and Surgeon-General T. O'Farrell; Colonel J. L. Notter, Colonel J. P. Rooney, Colonel J. F. Supple, C.B., and Colonel W. McWatters; and Lieutenant-Colonel S. H. Carter, Lieutenant-Colonel J. A. Gormley, and Lieutenant-Colonel C. H. Swayne, D.S.O.

BRAVERY OF A MEDICAL OFFICER.

Captain H. C. French, R.A.M.C., has been awarded the Royal Humane Society's medal for gallantly jumping overboard from the transport *Wakool* in the Straits of Singapore on Nov. 17th, 1902, in order to rescue a coloured stoker. What made the bravery of the act more conspicuous was that the locality abounded with sharks and that the vessel was at the time going at considerable speed. Both Captain French and the stoker were, we are glad to say, afterwards picked up by a lifeboat. Captain French is a son of General French. Another son, Major G. A. French, A.S.C., obtained the Royal Humane Society's medal by a signal act of heroism some years ago on the West Coast of Africa.

OFFICERS' CHARGERS AND OUTFITS, QUARTERS AND MESSES.

Special army orders have been issued in regard to provisions for the supply of chargers to officers of the army and the grant of outfit allowance, together with instructions in reference to the furnishing at public expense of officers' quarters and messes at home stations.

THE PREVENTION OF THE SPREAD OF TYPHOID FEVER.

A report by Professor Koch on the means of combating typhoid fever has just been published by the medical department of the German War Office. Professor Koch, regarding the disease as essentially transferable, lays great stress, among other things, upon the complete isolation of the sick.

Correspondence.

"Audi alteram partem."

THE NEW SYDENHAM SOCIETY'S CLINICAL ATLAS.

To the Editors of THE LANCET.

SIRS,—You have repeatedly accorded to the society which I represent the valuable privilege of addressing its members and others in your pages and I am emboldened by past favours to solicit another. The council of the New Sydenham Society is desirous to place before the profession a statement as to what has been done and what is in progress in respect to its great undertaking to publish a Clinical Atlas of medicine, surgery, pathology, and all allied branches of professional knowledge. The decision to undertake such an atlas was arrived at after much deliberation more than two years ago, and as the first year of its issue is about to be completed we are now in a position which enables us to report as to what is likely to be accomplished.

In the first place the council has had reason to congratulate itself in three several directions. The number of subscribers, although much below what it is hoped may be attained, is yet adequate, the cost of the work proves to be much less than was expected, and the supply of material is abundant. In the next place, the council feels that it is due to the society's members to offer some explanation of what may appear like unpunctuality. We are only just about to conclude the issue of the series for 1901 and to commence that for 1902. Thus it may be said that we are a twelvemonth behindhand. No one, however, who will give the slightest thought to what the production of such a work as this is will feel any surprise at this. Our plates take a long time in passing through the artists' hands and to hurry is to spoil. Many months were consumed in inquiries as to whether the work would receive the support of the profession and it was, of course, impossible to make preparations before a decision was arrived at. We are engaged not in the reproduction of any existing work, but in the publication of an original work of very large dimensions and involving the collection of an immense amount of material, a large part of which now sees the light for the first time.

The fact just alluded to must stand as the explanation not only of a certain amount of delay in issue but of some want of systematic arrangement which will become apparent. Any attempt at finality in such arrangement would be to the injury of our work. New illustrations may be supplied late which it would be a great pity to exclude and unforeseen impediments may be encountered in the production of any one fasciculus. There is but little room for automatism in the compilation of such a work as ours, and as the foremost aim of those engaged on it will be to make it useful as a clinical record of all that is susceptible of pictorial illustration in reference to disease some latitude must be asked for in the matter of arrangement. We shall do our utmost to study the convenience of the reader but shall not sacrifice his real interests by a too rigid endeavour to adhere to a cut and dried programme. He may now and then encounter supplementary plates, or find a topic which he had thought concluded again referred to. It must be remembered, also, in reference to the selection of subjects, that our atlas is an international one and is not intended exclusively for the home profession.

The issue of works for the year 1901 will be completed in a few days by the publication of a double fasciculus illustrating "Xanthelasma and Xanthoma as Symptoms of Functional or Organic Disease of the Liver." When our members for that year receive this fasciculus they will have had for the guinea subscription a printed volume (Von Limbeck's "Treatise on the Clinical Pathology of the Blood," translated by Dr. Arthur Latham) and four fasciculi of the Atlas, which contain a total of 22 coloured plates and 21 uncoloured. Thus considerably more than was promised has been accomplished, for the council's undertaking did not go beyond the issue of four fasciculi of eight plates each and the addition of a printed volume was only conditional on financial success. What makes this result especially satisfactory is the fact that it has been attained on a comparatively small list of members. Now that our year's work is before the profession we may legitimately hope that our list will rapidly increase and if it does so we shall be able to afford much more. Without making any sort of promise I may say that I am sanguine that instead of four we may be able to afford eight fasciculi a year, or their equivalent in an increased number of plates in each. If this can be done the Atlas will rapidly develop and will be likely to attract still further additions to our members' list. However this may be, it is certain to become by far the largest and most comprehensive work of its class ever attempted.

In order to attain the results just alluded to all that is necessary is that our members generally should bestir themselves. They have their own interests in their own hands. In the hope of giving a fillip to zeal in this matter the council has decided to accord a small privilege in compensation for trouble taken. It will issue to all who pay in one

sum the subscriptions of five members for any one year six copies of the fasciculi issued for that year, with also any printed volume that may have been added. This privilege will be accorded not only to local secretaries, but to all members of the profession. As the stones from which the plates are printed will have to be cleaned off almost at once, and no new edition is in the least degree probable, it is desirable that those who wish to secure the work should apply early.

In conclusion, I have but to state that the issue of the Atlas (in its Clinical form) began with the year 1901, and that new subscribers should at once forward their subscriptions for that year and for 1902. If it is wished to save trouble the subscription for 1903 may be added. Our agent is Mr. Lewis, 136, Gower-street, W.C.

I am, Sirs, yours faithfully,

JONATHAN HUTCHINSON,

General Secretary (Hon.) to the New Sydenham Society.

Cavendish-square, W.

THE IMPERIAL VACCINATION LEAGUE.

To the Editors of THE LANCET.

SIRS,—With the majority of my profession I am keenly interested in, and have sympathy with the aims of, this league, and therefore am concerned with its proceedings which must so intimately affect the social well-being of this great nation. As a justice of the peace I have the privilege of seeing a large number of "conscientious objectors" and of signing the certificates enjoined by a clairvoyant Government "that they conscientiously believe that vaccination will be prejudicial to their child's health." I have in consequence exercised much thought upon the question, its disastrous results, and its remedies. Some crudely and ignorantly dismiss the difficulty by the statement that conscientious objectors are either rogues or fools. This view resolves no part of the problem which has puzzled us all and I join issue with the statement. For although it is true that it is mainly the weak man who causes the trouble and who revels in the unreasoned thought that 'he won't be *made*" to submit to the ordeal, still it is sometimes the thoughtful, hard-headed man, pondering the subject carefully, who raises the objection. "If," he argues in effect, "I have my child vaccinated and my wife and myself revaccinated what do I gain for my trouble? Nothing but a 'blooming' (he would doubtless prefix a still more expressive adjective) sore arm. But if I reject the vaccination what do I lose and what do I gain? 1. I *lose* nothing by refusing except a troublesome and possibly an inflamed sore arm. 2. But I *gain*: (*a*) If I catch the small-pox the benefit of my beneficent neighbours, as represented by the urban and rural councils of all descriptions, immediately removing me to a hospital where I am most carefully nursed with every comfort which sickness requires, until I am well, while my wife and children, although then compelled to submit to vaccination, are well provided for during my enforced absence; (*b*) if, on the other hand, a member of my family sickens with small-pox, the same routine is experienced at the hospital for their welfare, and I receive my wages for doing nothing except keeping out of the way of my neighbours and being vaccinated." The natural sporting instinct of the Englishman helps the reasoning.

How, then, can we be extricated from the dilemma into which our legislators have confined us? If I can appear before a bench of magistrates and express an objection to vaccination (I have never yet heard a case where there was a "conscience" in the matter) and thus obtain a certificate of exemption it is manifest that everyone can do the same, and if this be the case the notion of compulsion is a farce. Would it not, therefore, be honest to admit at once that compulsion in vaccination does not exist? If anyone doubts this let him bring the recalcitrant person before a petty sessions, obtain a conviction, and then enforce the fine. I think that he will find the same experience as we underwent in Rugby. The fine was not paid; a "distress" warrant was issued; an auction was the consequence, which speedily degenerated into a storm of rotten eggs and bags of flour; with the auctioneer (obtained from our midland citadel for prudential reasons) leaving the rostrum in a hurry, making peace by shaking hands with those nearest to him, and the anti-vaccination party triumphantly "holding the field." Then what is the next step? The law-breaker has the best of it, as nothing further can be done. He cannot be imprisoned while he has "goods" on which "distress" can be levied, and yet these cannot be sold to pay the fine while no one will buy. The whole farce requires a Dickens to describe the ignominy into which the law has been brought. It is not statesmanship to hold up the law to ridicule in this fashion when in reality no such thing exists as compulsory vaccination. This being the true position it is quite clear that the law has to be altered, for Englishmen are usually law-abiding citizens. How, is the question that concerns us all, for it is imperative that the scourge of small pox should be abated. Without a shadow of a doubt the prevention of all illness is far better in its issue and infinitely less expensive than providing for its treatment.

I would therefore submit the following suggestions for consideration:—1. That the State should publicly abolish—if it can abolish what has already been implicitly abolished by the blind act of our legislators—compulsory vaccination. 2. That the various councils, instead of offering a premium upon refusal to be vaccinated and revaccinated, should proceed on the opposite tack and reward those who comply with the annoyance of vaccination, for no one can deny the annoyance. 3. That the State should provide a sufficient supply of pure glycerinated calf-lymph for all. 4. That the State should furnish free vaccination to all who desire it. 5. That the State should supply, directly or indirectly, hospital accommodation—there would soon be no sufferers to require it—and full wages to all who are afflicted with small-pox after efficient vaccination or revaccination (every 10 years if deemed advisable) and to whom a Government certificate should be furnished. But it would be necessary for the State to define what it regarded as efficient vaccination and revaccination. For instance, such a farce as medical men revaccinating in one spot only should be impossible—a case which sometimes occurs at Rugby, where every boy is required to be revaccinated before, or on, entering the school. No case should receive the Government certificate under penality unless four good pocks are manifest and four also from revaccination. 6. In respect of tramps and the "submerged tenth" the grant of a State gratuity to those who obtain the Government certificate would probably cover the difficulty. The cost would be insignificant in comparison with the provision of hospital treatment for sufferers from small-pox. 7. Those who still refuse vaccination and revaccination might be left severely alone. This course might inflict some hardship for a time, but nothing like the hardship which at present exists when small-pox supervenes. 8. The system of commending or of rewarding those good citizens who submit to vaccination and revaccination would be more efficacious than punishing recusants, since the penalty is a dead letter.

It may be argued that the few who would still reject vaccination and who would by their refusal keep small-pox alive, would expose the majority to the ravages of the disease. But if vaccination and revaccination be worth anything—and undoubtedly it is absolutely to be depended on when efficiently performed—not one of those who is protected by vaccination, and revaccination periodically conducted, could suffer in consequence. Failing some such scheme as that which I have attempted to outline the vaccination question in this country simply involves the aid of the police or of the military authorities.

I am, Sirs, yours faithfully,

CLEMENT DUKES, M.D., F.R.C.P. Lond.,

J.P. for the County of Warwick.

Rugby, Dec. 31st, 1902.

NOMENCLATURE OF MALARIA: A SUGGESTION.

To the Editors of THE LANCET.

SIRS,—It would seem that the time has arrived when the diagnosis of cases of malaria must aim at giving the name of the species or variety dealt with and not merely one of the general terms, intermittent or remittent fever, as laid down in the last edition of the "Nomenclature of Diseases." Information is wanted as to the geographical distribution of the various kinds of malaria, and this can only be arrived at by recognising them in the new edition of the Nomenclature. The demonstration of the species of malarial parasite which is the infecting agent in a particular case will necessitate the use of the microscope. This routine microscopical examination of the

blood will, it may be presumed, bring about a more correct diagnosis of fevers in malarious countries and assist rational treatment. Malta fever was treated until lately with large doses of quinine on the supposition that it was malarial in origin. In the same way it is too often assumed that any fever occurring in a malarious locality is malarial in character, and quinine is given in enteric fever, tuberculosis, liver abscess, &c., when a blood examination might have prevented the error. The nomenclature I would suggest for the three well-recognised species of malaria is the following:—

Malarial fever.—Synonyms: ague, intermittent and remittent fever.
a. Tertian.—Synonyms: hæmamœba vivax, simple or benign tertian.
b. Quartan.—Synonym: hæmamœba Golgii.
c. Crescent tertian.—Synonyms: Laverania laverani, æstivo-autumnal fever, malignant tertian, tropical tertian, remittent fever.

I have left out the commonly used terms "simple," "benign," "malignant," and "pernicious" as they are misleading. The so-called "simple tertian" may often be more severe than the so-called "malignant tertian." "Æstivo autumnal" is a term which may apply appropriately enough to the fever as it occurs in Italy, but in other parts of the world is unsuitable. The genius of Koch suggested the term "tropical tertian" for the third variety and this is undoubtedly an excellent name, but as the fever is also found in temperate climates it is also misleading. In regard to the scientific names, I think Golgi, who discovered that the parasite of malaria consisted of more than one species, should be commemorated, and also Laveran whose epoch-making discovery of the malarial parasite has, it seems to me, never been sufficiently appreciated in this country. In the present edition of the "Nomenclature of Diseases" the old term malarial cachexia has been left out. I would propose that in the next edition the chronic form of malaria, when the parasites have disappeared from the blood but the anæmia, pigmentation, enlarged spleen, &c., remain, be again given a place, and I would put forward the name: Chronic malaria; synonym: Malarial cachexia. This short note has been written in order that anyone who takes an interest in this question may have the opportunity of bringing forward other suggestions or criticisms. I am, Sirs, yours faithfully,

DAVID BRUCE,
Dec. 20th, 1902. Lieutenant-Colonel, R.A.M.C.

RIGHT-HANDEDNESS AND LEFT-BRAINEDNESS.

To the Editors of THE LANCET.

SIRS,—Sir Samuel Wilks in his valuable letter[1] on the above subject shows, I think conclusively, that certain practical advantages result from the employment of one hand and arm exclusively for certain movements. I do not feel altogether convinced, however, that writing should be included among these. It is true that in writing "forwards" with the left hand the movements do not correspond with those employed in writing similarly with the right hand; nevertheless, one can learn to write quite well with the left hand, and it does not appear to me that any practical disadvantages attach to ambidexterity in the case of writing: it is simply a question of learning to write with both hands, and I have known children to show a preference for using the left hand rather than the right for writing. I am acquainted with a child who used to write all her home-lessons with the left hand, only writing with the right hand when she was compelled to at school. Now, through being constantly compelled to write with the right hand, she uses this one almost solely for writing, though she can still write fairly well with the left. This child, I may remark, is very fond of, and not a little skilled in, drawing and she always employs the left hand for this purpose.

These remarks prepare the way for the chief object of my letter, which is to raise the question whether by employing the two hands equally in writing and thus (presumably) the two sides of the brain equally in "word processes" more can be achieved in the realm of language than when one hand only is used for writing. If we can secure the development of the motor and sensory speech centres in both halves of the brain instead of one only, if, that is to say, we can enlarge the anatomical sub-stratum of language, may we not hope to obtain in this way some increase in the capacity for language? This question is capable of being answered by experiment. All that is necessary is to teach a number of children to use both hands equally for writing and to compare their gift of language with that of others who write with the one hand only.

I am, Sirs, yours faithfully,
Wimpole-street, W., Dec. 28th, 1902. HARRY CAMPBELL.

[1] THE LANCET, Dec. 13th, 1902, p. 1658.

To the Editors of THE LANCET.

SIRS,—Sir William Gowers has promulgated in his letter in THE LANCET of Dec. 13th a charming theory in the speculation as to the cause of right-handedness. But his theory loses much of its weight by being applicable only to those of our ancestors who inhabited the northern hemisphere, suggesting by inference that those south of the equator should all have been left-handed by choice. Now we know that this is not so and must therefore look for some other reason to account for right-handedness and all that right-handedness involves and includes. I would, as opposed to a celestial cause, propound the probability of a very mundane reason. When early man first learned the art of fighting with a weapon, however rude, it would gradually be borne on him that wounds of the right side of the chest were not so fatal as those of the left. Arguing thus he would construct a shield which should be carried on the left arm, leaving the right to wield his weapon and to strike his blow.

I am, Sirs, yours faithfully,
Kensington-court, W., Jan. 1st, 1903. E. A. BARTON.

THE HOPELESSNESS OF THE BATTLE AGAINST CONSUMPTION SO LONG AS THE ELEMENTARY SCHOOLS ARE HYGIENICALLY UNREFORMED.

To the Editors of THE LANCET.

SIRS,—A perusal of Mr. Felix Clay's criticism in THE LANCET of Dec. 20th (p. 1722) of my letter of Dec. 6th shows that he has failed to grasp the far-reaching effects of sanitary reforms of which hygienic elementary schools is one. He points to the cost of the schools and the difficulty of finding a sufficient supply of teachers for so increased a number. Moreover, he seems to take it for granted that these reforms can be thrust upon the nation at once in their entirety. If this were the case it must be admitted that the difficulties he mentions might arise; but reforms of the nature suggested are a slow growth, and it would doubtless take some years for the beneficent effects of the reforms to become manifest and for the population who, under the old *régime*, would have died from phthisis to grow up into useful citizens. Other difficulties besides that of obtaining teachers arise from the comparative sparseness of the population of the country which is making itself felt in various ways, such as the undermanning of the navy, the imminent conscription, and the waning power of colonisation. Is this to be wondered at in a country which placidly allows 60,000 of its most promising, active, and intelligent population to die yearly from a preventable disease? To illustrate this point allow me to take it for granted that the various plans of hygienic reform are in active operation and as successful as their originators could wish and that consumption is eliminated as a common disease almost as completely as leprosy. Then the 60,000 English men and women who now die annually in the British Isles from tuberculosis would be saved and added to the number of the wealth-producing population. In 20 years a number considerably above 1,200,000, which is the figure a multiplication of the former number gives, would be produced. As a means, however, of representing the increased population this number is unsatisfactory, while it fails completely as an estimate of the increased wealth and health of the country as it does not show the millions of ailing citizens freed from a life of chronic ill-health and sickness and the increased healthfulness and energy of the remaining portion of the population. Surely it is not unreasonable to suppose that the capital invested in the preservation of child life in the elementary schools and the closing of the various death-traps which abound in the kingdom will be amply repaid by the general well-being and prosperity of the community and that the cost must be a minor item in the general weal.

Opinions may differ as to the best method of treating a

cancer such as tuberculosis affecting the commonwealth may be supposed to be: whether the disease ought to be completely eradicated at once by the knife or trifled with by the application of feeble caustics and narcotics. Experience of the latter old wives' method of treatment has taught surgeons to be wary of it. With respect to the argument that the hygienic laws proposed will tend to curtail the liberties of Englishmen, it is quite possible that these changes will be opposed by a sentimental anti-progress league which will ultimately, however, be brought to its senses when there is a danger of the nation being left behind in the struggle for supremacy by communities more in sympathy with scientific progress and discovery.

I am, Sirs, yours faithfully,

Lampeter, Dec. 26th, 1902. E. CLUNEGLAS DAVIES.

REFLEXES: THEIR RELATION TO DIAGNOSIS IN RHEUMATOID ARTHRITIS.

To the Editors of THE LANCET.

SIRS,—In Dr. R. Llewelyn Jones's interesting paper on the Reflexes in Rheumatoid Arthritis in THE LANCET of Dec. 27th, p. 1746, I notice a reference to "jaw jerks." On his resignation as resident medical officer of the Royal Mineral Water Hospital, Bath, Dr. Jones kindly showed me this clinical phenomenon which I have carefully tested. The mandibular joint being so frequently affected one found plenty of material to work with and it may be of interest to note my conclusions. Invariably where the jaw has been recently affected one obtains a smart response to percussion, and irritability is so marked that clonus is not a rare occurrence though a single acknowledgment to the tap is more often elicited. In cases where the jaw has apparently been free from trouble for many months the jerk is still easily obtained, though in most of these apparently recovered joints grating or slight morning stiffness can be made out. Frequently, however, one meets with cases giving histories of former jaw attacks and where no evidence of any active arthritic mischief is present I have received a response, showing how persistent the irritability is. An interesting case recently in hospital gave no history beyond that of aching teeth and on examination though no dental caries was made out yet the jaw responded. The aching teeth, I take it, was a referred joint affection. In most cases, however, where jaw trouble has been complained of the molars and bicuspids were degenerate or absent, though the incisors seemed to be peculiarly resistant.

A passing reference to knee-jerks is not out of place. We notice here in rheumatoid affections of the lower extremities where no joint contractures have occurred a more than slight increase in deep reflexes. In fact, digital percussion to the patellar ligament not infrequently throws the affected leg into an almost epileptiform condition of clonus, and this seemingly often out of proportion to the joint changes. As a rule, where such a state of affairs exists the other limb partakes in excitability though not necessarily to the same extent. In one case I am thinking of Dr. Carter pointed out to me the markedly spastic gait of the man. Here Babinski's sign was absent.

The most marked condition of "myotatic irritability" I have seen was in a middle-aged woman who was greatly distressed one morning by an attack of clonic muscular spasms of all the extremities, especially the left side. Her muscular convulsions shook the bed and on firmly holding the arm or leg muscles rapid twitchings were to be felt. Her pulse was 160, the respirations were 40, and the temperature was 99·6° F. On her admission we noticed Stellwag's symptom occurring rhythmically in both eyes, slight proptosis, and von Graefe's sign. There was no thyroid enlargement and her morning pulse was 80. Belladonna, bromide, and digitalis seemed to cut the attack short. Some might quote hysteria as the cause, but her general behaviour was against it and I believe that the arthritis was closely connected with the attack—probably of the same origin.

I am, Sirs, yours faithfully,

J. W. MALIM, B.A., M.B., B.C. Cantab.,
Resident Medical Officer, Royal Mineral Water Hospital, Bath.

Bath, Jan. 3rd, 1903.

To the Editors of THE LANCET.

SIRS,—I have read Dr. R. Llewelyn Jones's paper under the above title in THE LANCET of Dec. 27th, p. 1746, with a great amount of interest, but I should like to draw attention to a statement he makes which I cannot allow to pass as correctly representing my views as to the origin of the disease. On page 1748 he says: "Dr. Bannatyne ascribes the disease to a toxæmia affecting the anterior cornua of the cord." Now this is not my idea of the origin of the disease. To put it shortly, I look on rheumatoid arthritis as due to specific bacteria having their nidus in the affected joints themselves and that the joint symptoms are the primary and essential symptoms of the disease. I look on the vaso-motor and other nerve symptoms as purely secondary, possibly caused by absorption of the bacterial products elaborated by the micro-organisms in the joints. My principal point is that I look on the joint troubles as caused by the local action of the bacteria and not as the result of trophic changes due to a toxæmic poisoning.—I am, Sirs, yours faithfully,

GILBERT A. BANNATYNE, M.D. Glasg.

Bath, Dec. 28th, 1902.

PERMANGANATE OF POTASSIUM IN SNAKE-BITE.

To the Editors of THE LANCET.

SIRS,—In regard to the annotation respecting the efficacy of the subcutaneous injection of solution of permanganate of potassium referred to in THE LANCET of Dec. 20th, p. 1711, it was strikingly illustrated by experiments conducted by M. Louis Perinquey and myself with the poison of the puff-adder and described in the *Medical Press and Circular* for June, 1886. Since then, with great caution, I have employed the same remedy, likewise subcutaneously injected, in a very extreme case of blood poisoning occurring in a man who in order to remove an obstruction in a drain-pipe had pushed his arm into it, thereby receiving a scratch, after which the whole arm gradually swelled up to an enormous size. In this condition, attended with severe constitutional symptoms threatening imminent death, he came to me. All hope seemed gone but he made a complete recovery. A few notes of this case, which occurred in 1894, I recorded in the *British Medical Journal*.

In the snake-bitten dog, although I used a strong solution and injected it freely into the tissues and also into the muscles, there was only a small local reaction. The animal made an astonishing recovery and it was well bitten several times over by the very same snake which had caused the death of another dog within about six hours. There were scarcely any noticeable dangerous symptoms except a little listlessness and sleepiness. The remedy probably destroyed the virus. The injection of the solution did no harm and the dog scarcely suffered at all. The treatment should only be used in dangerous cases in human beings and always with much care and, as a rule, only in snake-poisoning should intra-muscular injections be made.

I am, Sirs, yours faithfully,

Grimsby, Dec. 24th, 1902. GEORGE GRESSWELL.

THE STAFFING OF RECEPTION HOUSES.

To the Editors of THE LANCET.

SIRS,—The London County Council with its habitual progressive spirit in lunacy matters having decided to establish reception houses for incipient mental disorders, it is very essential that these should be staffed from the outset in the most efficient manner. The treatment of incipient mental disorder has occupied my attention for many years past and I trust therefore I may not be considered as presuming in venturing to express my views in this particular to which I have also given very considerable attention. Many members of our own profession are in the habit of asserting that no special skill or experience is needed in the treatment of mental disorder. This view, I consider, is the strongest and most conclusive evidence that could be advanced that they know absolutely nothing of the subject.

An alienist physician of the present day must not only have a full and long experience of mental disease but he must be a specialist in neurology, gynæcology, ophthalmology, and, in fact, in every specialism, to the extent of knowing when he needs the aid of one of these specialties. The asylum physician, it must be remembered, has unequalled opportunities in the large institutions for the insane for observing not only mental disease, but every other

form of disease over lengthened periods and under conditions of which he has absolute control. No other physician has equal opportunities for observing and treating disease generally. The profession at large has had little instruction in mental disease and consequently is too often prone to treat cases of ephemeral epi-phenomenal mental disorder as if it were a grave mental attack and to imagine that all patients will recover without special treatment as easily as these. Alienists, however could bear testimony, if it were needed, to the frequent unsatisfactory ending of such unskilled and too often unscientific treatment. Very much more might be said on this subject, but it is a distasteful one to touch on.

The scheme for staffing such an institution as that under discussion which I would suggest is a resident physician, who should have had considerable experience in mental diseases, either as superintendent or senior medical officer of an asylum, with junior residents, who should be qualifying for posts in asylums. The experience of the junior posts would be the best possible introduction to alienist work and every alienist physician should, if possible, begin with work in reception houses. This would in time add materially to the value of the asylum staff and would reflect later on the reception house. The reception house physician should have power to call in specialists of every kind whenever necessary and he should have also the power of consultation not only in treatment of individual cases, but in matters of organisation, &c., with an alienist physician. Such consultant physicians might well be retired asylum superintendents, many of whom although no longer equal to the duties of superintending a large asylum of 2000 beds would be quite equal to, and of the greatest value to the public in, such work

In conclusion, I would repeat that although the bodily conditions are of great importance in the early stages of disorder the mental side is of still greater, and that unless both sides are attended to the favourable result of the reception house treatment may not only be impaired but destroyed.

I am, Sirs, yours faithfully,

H. RAYNER, M.D. Aberd.

Queen Anne-street, W., Jan. 1st, 1903.

THE BRANCH MEDICAL COUNCIL FOR IRELAND.

To the Editors of THE LANCET.

SIRS,—Will you be so good as to permit me to state through the medium of THE LANCET that in conformity with the following resolution of the Branch Medical Council for Ireland passed on June 2nd, 1902, I have terminated my connexion with the Irish Medical Registration Office :—

That in order to carry out the requirements as to economy in the management of the Irish Branch Council notice be given to the landlord of the premises that the office will be surrendered on 31st December next or as soon after as may be and that notice of the terminations of their appointments at the same date be given to the registrar of the branch and to his clerk.

I am, Sirs, yours faithfully,

Dublin, Jan. 5th, 1903. S. WESLEY WILSON.

THE MEDICAL MAN, THE CORONER, AND THE PATHOLOGIST.

To the Editors of THE LANCET.

SIRS,—From a legal point of view one may reasonably inquire whether Mr. Coroner Troutbeck has the power to pass over a medical practitioner who has attended the deceased at death or in the last illness, and from the authorities I have consulted it would appear not. Further, on reading the Coroners Act it seems that the intent thereof is that the attending medical man, or one called in at the death, should be summoned by the coroner and directed to perform any post-mortem examination, except by implication in the particular case provided for in the second part of Section 21. From all one knows of Mr. Troutbeck's action of late he appears to ignore these sections of "the Act of Parliament" and to regulate his procedure on some "pious opinion" of the Public Control Committee of the London County Council.

It will be observed that even this "pious opinion" of the County Council only refers to inquests of a "special nature" and says nothing of its being adopted in the generally sweeping way which Mr. Coroner Troutbeck has been doing. The fact is that the present method of appointing coroners by county councils and exacting from candidates "agreements to give effect" to fads and crotchets of county councillors ties the hands of coroners and converts their courts from what should be strictly legal tribunals, carrying great weight, into inquiries to which most people give little attention and the proceedings and records of which often cause great ridicule and corresponding contempt. It is admitted that the Government has as yet made no alteration in the law of coroners and yet the County Council would override the Act of Parliament by exacting pledges from candidates to go outside the procedure laid down by such Act.

It requires, in my opinion, simply cohesion and determination on the part of medical men to bring both the County Council and coroners to a sense of the illegality and wrong done, both from a legal and medical point of view, by this new procedure.

I am, Sirs, yours faithfully,

Dec. 29th, 1902. MIDDLE TEMPLE.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Family Clubs.

CONSIDERABLE agitation has been aroused in Walsall by the combined decision of the medical practitioners there to give up this form of the club system on Feb. 1st. This decision will affect also a large portion of the population in the Midland districts. The particular evil complained of in this private club system is that of employing a collector who canvasses for members at the rate of 1*d.* per week and exacts a large percentage, as much as 25 per cent., for his share of the work of introduction. The responsibility is then left to the medical practitioner to deal with and to attend them. This pernicious and eminently commercial plan inevitably leads to touting in its worst form and is degrading to the character and dignity of the profession. The action of the medical profession is not only in accordance with right traditions but also with the progress of the age. This determination refers only to this form of club and does not affect the ordinary friendly societies whose business is conducted on legitimate and proper professional lines.

Christmas at the Hospitals.

The decorations of the various hospitals of Birmingham this year and the entertainments given to the patients and visitors have been quite up to the usual high standard of excellence. Infinite pains have been taken in the execution of the details of this work to make the institutions bright and cheerful for the inmates. The General Hospital occupied two evenings with the performances given by the resident medical officers and the nursing staff. Much enthusiasm and energy were also exhibited at the Queen's Hospital in the efforts to make the season as comfortable and happy as possible for the large number of inmates.

Female Ambulance Corps.

Attention has been called to the fact that, with all its reputation for progress, Birmingham has no organised band of ambulance women. Good work has been done individually by attendance at classes and qualifying for certificates in ambulance work. Last year, in various quarters of the town and neighbourhood as many as 284 women became proficient in first aid, but no coöperation exists nor is there any combination to utilise their services publicly. A division of ambulance women would no doubt be of much importance, for there are many cases of accident or illness where the help of women would be of the utmost advantage. It is true that in some of the large factories there are women who have passed the necessary examinations and are well qualified to act, but the requirement for their services is limited to the works in which they are employed. It is estimated that there are about 900 women in Birmingham able to give first aid and it has been considered that from among them a well-equipped division might be formed. Their attendance at public gatherings in the parks, recreation grounds, and at certain stations might often lead to their services being called for and to pain and suffering being avoided by their ready and intelligent help. The suggestion is a good one and if the plan were carried out

efficiently and worked under systematic control it would serve an admirable purpose.

The Dangers of Acetylene.

It may not generally be known how much danger may exist in the use of acetylene for even toy purposes owing, no doubt, to the want of a proper understanding of its manipulation and use. A lamentable accident occurred recently to a youth, aged 16 years, who essayed to light the lamp of his magic lantern with acetylene gas. Having provided some calcium carbide he sought to use it in accordance with instructions gathered from sundry papers and journals. In the course of these efforts there was a loud explosion and the boy was burnt so much that he died subsequently from the injuries received—which shows once more that a little learning is a dangerous thing, more especially in dealing with substances of such potency as those used by this unfortunate youth.

Hospital Sunday Fund.

The total receipts this year amounted to £5014 13*s.* 5*d.* The expenses were slightly less than those of last year—viz., £288 7*s.* 5*d.* The balance has been apportioned among various institutions interested.

Jan. 6th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Infirmary Question.

AT the meeting of the Manchester Infirmary board held on Dec. 29th a report was received from the medical board in which the following opinions were unanimously expressed: "That it is undesirable to have an out-patients' department away from the hospital; that an accident and urgency department should be established in the town; that such accident department should contain 20 beds; that it is advisable that the accident and urgency department be placed in a central and prominent position; that members of the honorary medical and surgical staff be appointed to superintend the working of the emergency department; that a mortuary provided by the town be attached to the buildings." The chairman, Mr. John Thomson, said that the report was an answer to questions which they had asked the medical board and that they were not committed to it. A member stated that though agreeing with it as a whole the probabilities were that more than 20 beds were required. The report was not further discussed.

Joint Hospital Scheme.

On Dec. 22nd a conference convened by the Local Government Board on the joint hospital question at Bury was concluded. Dr. G. S. Buchanan, medical inspector to the Local Government Board, presided. It was agreed that a new authority should be formed consisting of the borough of Bury, Radcliffe, Whitefield, Ramsbottom, Tottington, and the Bury rural district to deal with small-pox and other infectious diseases. The inspector recommended, and it was agreed, that pending the issue of a provisional order mutual arrangements should be made forthwith at Ainsworth.

Diet for an Infant aged Two Years.

A case which it may be worth while to notice, as we are supposed to be on the eve of important developments of education both "voluntary" and "provided," occurred the other day at Salford. It is only one of thousands like it all over the country, showing how useless, in some directions at least, is the equipment for the needs and duties of life brought away from the elementary schools. At an inquest on the body of a child, two years old, held on Dec. 23rd, the mother said that she fed him on bread, cheese, and beer because he asked for them. The wives of canal boatmen are not those from whom to expect advanced views as to infant feeding, but it is not creditable to our system of education—all-embracing as it is—that women should be found so grossly ignorant as this woman. The coroner said that he should report the case to the National Society for the Prevention of Cruelty to Children, but surely she is not the only one to be blamed. The diet will have prepared your readers for the verdict of the jury—"Death from convulsions caused by improper feeding."

Jan. 5th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Outbreak of Small-pox in Liverpool.

LIVERPOOL is being visited by a severe outbreak of small-pox, yet the public mind seems little perturbed. A large seaport like Liverpool is always exposed to attack by zymotic disease, which may be imported on shipboard from any quarter of the globe. In the case of bubonic plague the ports of origin are easily determined, when effectual supervision can be exercised, but the case is otherwise with small-pox. Until last year Liverpool had enjoyed a lengthened respite from the disease and the excellent sanitary arrangements of the city inspired the hope that cases would be few and far between. Now the disease is rife in the city. During the last week of 1902 there were 74 fresh cases, and on Dec. 31st 26 additional cases were notified to the health authority, making upwards of 206 cases under treatment in hospital. The fact of 50 fresh cases having been reported within the past seven days calls for precautionary measures of an effective character. Revaccination is being strongly urged by the medical officer of health. Unfortunately, people in the first stage of the disease are moving about the city, carrying the germs of the disease with them in offices, tramcars, shops, &c., so that the energies of the health department will have to be exercised to their fullest extent. One of the Local Government Board inspectors on his recent visit to the Liverpool Workhouse had suggested to the committee that, in view of the number of cases of small-pox, greater precautions should be observed in the matter of visiting, which should be restricted to the narrowest possible limit. Within a fortnight four cases had been removed from the workhouse to the small-pox hospital. At the last meeting of the workhouse committee it was stated that on the previous day the Lancashire Asylums Board had paid a visit to the Whittingham Asylum and the medical superintendent there (Dr. J. F. Gemmel) declared that he would accept no more insane cases from any area in Lancashire infected by small-pox. This resolution was arrived at despite the protests of the Liverpool members of the asylum board. This decision would apply to Oldham and Burnley as well as to Liverpool. In this connexion it may serve a good purpose to draw the attention of the tramways committee of the city council to the disgraceful overcrowding of the electric cars. These cars are registered to seat 22 persons inside and it is no uncommon thing to find 10 or 12 persons over and above the recognised number crowding the inside of the car, thereby preventing the admission of fresh air. The atmosphere is sometimes positively sickening, and at a time when small-pox, measles, and scarlet fever are rife in the city this practice ought not to be permitted. At certain hours of the day extra cars might be put on, which would materially assist in preventing overcrowding.

The Liverpool School of Tropical Medicine: The Discovery of the New Parasite in the Gambia, &c.

A report has been received by the honorary secretary of the School of Tropical Medicine from Dr. J. E. Dutton and Dr. Todd, the members of the tenth expedition of the school which has been despatched to Gambia and French Senegal for the special purpose of studying the new parasite, which Dr. Dutton only recently discovered in a patient under the care of Dr. Ford, the colonial surgeon of the Gambia. Their report is very interesting and shows that they have found the parasite again in a European and in several natives. The parasite has some resemblance to the tsetse fly, which causes such ravages among cattle in South Africa. Fortunately, it is not so fatal to man. It produces a continuous feeling of illness, with occasional attacks of fever. The researches of the expedition are of the greatest importance, as it is likely that many of the cases of West African fevers are really due to this new germ. The expedition at present on the Gold Coast is, among other matters, studying the tsetse fly.

Dr. Logan Taylor writes, under date of Dec. 11th, that he has procured a horse suffering from the disease. It appears that there are only two horses at present on the Gold Coast and it is to one of these that Dr. Taylor refers. He has been instructed to investigate on the Gold Coast the subject of the new parasite in man discovered in the Gambia.

St. Helens Hospital Extension: Generous Donation.

An anonymous donor, who simply calls himself "A Former Resident and Manufacturer in the Town," has sent a donation of £1000 to the St. Helens Hospital extension fund.

Birkenhead Borough Hospital.

Rather more than 12 months ago an additional ward was added to the Birkenhead Borough Hospital and a home for the accommodation of nurses is now in course of erection. These additions and the ordinary cost of the maintenance of the hospital necessitated an increase in the annual income of the charity of £550. In response to appeals which have been made by the committee a little more than £300 has been subscribed by way of addition to the subscription list. The working men of Birkenhead recognised the benefits of the hospital by subscribing £1152 last year. Mr. E. K. Laird, the president of the hospital, has issued a strong appeal to the Birkenhead public to emulate the praiseworthy efforts of the working men of the borough.

Jan. 6th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Royal Victoria Infirmary, Newcastle-on-Tyne.

THE building of the Royal Victoria Infirmary is now being rapidly proceeded with. There are about 350 workmen engaged and as most if not all of the foundations are already laid the progress is much more apparent than it has hitherto been. The nurses' home, which occupies one corner of the ground, is already built to the third storey and will be completed first. The nurses are domiciled at present in homes throughout the city, which is found to be somewhat inconvenient, hence the reason for pushing on the building of this part of the infirmary so rapidly.

New Lectureship on Ophthalmology at the College of Medicine, Newcastle-on-Tyne.

On account of the report of the representatives of the General Medical Council of their recent inspection of the final examinations, it has been decided by the council of the College of Medicine to institute a lectureship in ophthalmology. Hitherto these lectures have been most ably given by the professor of surgery, but as the representatives consider not only that they should be separate but that there should be a separate examination in ophthalmology for the B.S. degree, the council of the College of Medicine has decided to fall in with the recommendation.

The Durham College of Medicine Gazette.

This journal, the publication of which was commenced about two years ago under the lengthy title of *University of Durham College of Medicine Gazette, for Graduates and Undergraduates of the University of Durham College of Medicine*, has proved a great success. The profit for the two years' working shows a surplus of £147. The journal consists principally of a leading article on some popular medical or surgical subject, two or three pages of "notes" on current topics, a clinical lecture delivered at the Royal Infirmary, several minor articles, three or four pages on athletics, and occasionally a poetical effusion. Any graduate of Durham who is not a subscriber will be well repaid by sending 2*s.* 6*d.*, the annual subscription, to the honorary treasurer, *College of Medicine Gazette*, Royal Infirmary, Newcastle.

Northumberland and Newcastle Medical Association.

Following the appointment of a judicial committee to adjudicate in cases of offences committed by practitioners against the objects of the Northumberland and Newcastle Medical Association and the County of Durham Medical Union new rules have had to be added to the present standing rules of the two societies to regulate the appointment of the judicial committee and to give them power whereby to act. Considerable benefit is already being felt from the appointment of this committee, because several miners' associations already see how serious it would be if they were unable to secure the services of a proper consultant in cases where they desired one.

Newcastle-on-Tyne, Jan. 5th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox.

SWANSEA has been free from small-pox for several weeks. During the third quarter of 1902 there were 96 cases of the disease in the borough and 15 terminated fatally. There were 706 "contacts" kept under observation and all over 10 years of age were offered vaccination or revaccination. Only 95 of these persons refused to be vaccinated and 16 of them were attacked with small-pox. In the Newport (Mon.) Hospital there are six cases of small-pox and a steward engaged on a Spanish ship, which arrived in Cardiff from Bilbao, was admitted to the Cardiff Small-pox Hospital on Dec. 27th.

Rhymney Cottage Hospital.

The medical service in connexion with the Rhymney collieries and ironworks is under the control of a committee by which a fixed salary is paid to the surgeons employed. This committee has now set about the establishment of a cottage hospital and the foundation stones of the institution were laid on Dec 27th. The site together with a donation of £100, has been given by the Rhymney Iron Company, but nearly the whole of the remaining cost of the building estimated at £2285, together with the maintenance of the hospital, will be defrayed by the workmen. The hospital wil contain two wards, each having accommodation for four patients, a receiving-room, an operating-room, a committee-room, a matron's room, a nurses' sitting-room, kitchens, and three bedrooms.

Measles at Newport.

A very severe epidemic of measles is prevailing in Newport (Mon.)—so severe, indeed, that it has been deemed advisable to postpone the hospital balls and the new year's dinner and treat to poor children. The Sunday schools are closed and the day schools will not reopen after the holidays for a few weeks.

South Devon and East Cornwall Hospital.

As a result of the recent Hospital Saturday collections in Plymouth the sum of £550 has been forwarded to the treasurer of the South Devon and East Cornwall Hospital, Plymouth. The total sum received by the hospital from the Hospital Sunday collections on Oct. 26th last is £794.

Memorial to a Medical Man.

A memorial fountain has been erected in Beechwood Park, Newport (Mon.), to the memory of Dr. John F. L. Mullin who died on Feb. 17th, 1902, aged 52 years. The inscription on the fountain contains the words "The Poor Man's Friend."

Jan. 6th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Royal College of Physicians of Ireland.

IT is announced that the seventh award of the triennial Reuben Harvey memorial prize will be made on July 1st, 1903. The prize may be competed for by all students of the various schools of medicine in Dublin and also by graduates or licentiates of these bodies of not more than three years' standing at the time of the award. The prize, value £25, will be awarded to the writer of the best essay on Animal Physiology and Pathology. The essays, bearing fictitious signatures, are to be lodged with the registrar of the Royal College of Physicians of Ireland, Kildare street, Dublin, on or before June 1st, 1903.

Epidemic Disease in Dublin.

While the council of the Dublin Corporation has been

quarrelling about the site of the proposed isolation hospital what everyone anticipated has occurred. About three weeks ago an epidemic of typhoid fever appeared in Church-street and six patients were transferred from there to Cork-street Fever Hospital. When, on Dec. 24th, a second case of small-pox was discovered in Dublin the authorities at the Cork-street Hospital were unable to find accommodation for it and it was accordingly transferred to the Hardwicke Hospital and, after much difficulty, admitted there. Sir Charles Cameron wrote to the Lord Mayor to remind him that the latter hospital is situated in a congested district of the city and in the immediate vicinity of several large public institutions. A meeting of the corporation was held on Jan. 5th in the Council Chamber, Cork-hill, when Sir Thomas Pile, speaking on behalf of the public health committee, said that they should now throw the whole responsibility in this matter on the corporation. The condition of things is most serious on account of the fact that there are at present 216 cases of small-pox in Liverpool—100 cases having appeared during the last ten days—while the proximity of Liverpool to Dublin and the number of persons coming backward and forward renders it very probable that an epidemic of that disease would soon break out in this city. Sir Thomas Pile said that he was authorised by the medical staff to say that in their opinion it was almost impossible to prevent an outbreak in Dublin during the present year. Sir Thomas Pile then moved—"without going into the vexed question as to the site"—that the public health committee should be directed to secure an isolation hospital immediately, the cost not to exceed £3000. After some discussion this motion was carried, the question of the site being left to the committee.

The Belfast Maternity Hospital.

The annual sale of work for this charity was held just before Christmas, when Mr. H. H. McNeile, D.L., occupied the chair and the bazaar was opened by Mrs. Theodore Richardson.

Christmas at the Belfast Hospitals.

At the various hospitals in Belfast Christmas was spent in the usual happy way, an effort being made on all sides to render it bright and cheery for the sufferers. This was particularly the case at the two children's hospitals, where there were beautiful trees laden for the little patients.

Queen's College, Belfast.

The numerous old pupils of Professor Meissner, Ph.D., who since 1865 has held the chair of Modern Languages, will regret to hear of his retirement under the Treasury age rules. He is a profound scholar and as librarian of the college has proved himself a cyclopædia of knowledge.

Health of Belfast.

During the period embraced between Nov. 16th and Dec. 13th 275 cases of zymotic disease have been notified—viz., 85 cases of typhoid fever, 54 cases of scarlet fever, 50 cases of erysipelas, 44 cases of simple continued fever, 34 cases of diphtheria, five cases of puerperal fever, and three cases of membranous croup. The death-rate was 26·7, being 5·4 from zymotic diseases and 8·8 from chest affections. Although the number of cases of zymotic disease notified are fewer than in the last report presented by the officer of health to the corporation, yet the deaths are more numerous, a fact accounted for by the great increase in the number of deaths from measles, which disease seems to be epidemic in some districts of the city. Typhoid fever and scarlet fever appear to be decreasing.

The Belfast Medical School.

Lectures at Queen's College and clinics at the Royal Victoria Hospital began again, after the Christmas recess, on Jan. 6th.

Jan. 6th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

An Information Bureau for Medical Men.

DR R. BLONDEL, the general secretary of the Medical Press Association, has managed to inaugurate a scheme which will prove of great service to foreign medical men and medical students. It takes the form of a bureau where information may be obtained as to Paris medical life and such matters as hygiene, water-supply, and the like. I shall give your readers full details of the scheme next week.

The Re-organisation of the Hospitals.

The Municipal Council has already ear-marked the sum of 40,000,000 francs, which sum has been handed over as a loan for the relief of the pressing necessities of the Assistance Publique. The total sum really required was 120,000,000 francs, so that it has been found necessary to revise the original estimates. The sum allotted for rebuilding the Pitié Hospital, a portion of which is in ruins, is 6,000,000 francs and the new hospital will be built on some land belonging to the Salpêtrière. It will contain between 700 and 800 beds. The hospital for contagious disease, which has up to the present consisted of temporary buildings at Aubervilliers, will be rebuilt at Ivry. It is to cost 3,500,000 francs, will have 500 beds, and will be built in 14 separate blocks, completely isolated one from the other. The new Beaujon Hospital is to be built on the right bank of the Seine on land which has been cleared by the demolition of some fortifications. It will contain 1000 beds and will also be built on the separate system. One block will be reserved for tuberculous cases. This hospital will serve as an infirmary for senile and chronic cases and is estimated to cost 3,000,000 francs. The Broussais Hospital will be rebuilt on its present site. It will contain 500 beds and is estimated to cost 4,000,000 francs. On the left bank of the Seine will be erected a large hospital containing 1000 beds which will take the place of the present Laennec and the Charité hospitals. The Saint Antoine Hospital will have an addition of a new block to contain 500 beds. The land which lies between the Cochin and the Ricord Hospitals will be bought and on the combined sites will be built a large hospital containing 1000 beds. The asylums for the aged—namely, those of La Rochefoucauld and of Brévannes—will be increased, the one by 200 beds and the other by 700 beds. A sum of 1,500,000 francs is apportioned for bedding and linen, of which the Assistance Publique stands in sore need. The result of these works will be an addition to the resources of the Assistance of 1916 hospital beds and of 900 infirmary beds. These will necessitate an annual sum of 2,000,000 francs for upkeep. M. Ambroise Rendu, the municipal councillor in charge of the report on the condition of the Assistance Publique, expresses a hope that both the Government and the departmental treasuries will make grants in aid of the Paris hospitals, for more than half the patients treated in the Paris hospitals come from the provinces. The director of the Assistance Publique has issued a statistical paper showing the absolute necessity for a further supply of beds. The total number at present at the disposal of the Assistance is 7497, and in times of stress extra beds have to be put up in the wards, the number varying from 1704 at the end of February last to 504 at the end of June last.

New Laboratories at the Hospitals for X-ray Work.

Up to last year there were only three laboratories for x-ray work in all the Paris hospitals. At the end of the year, however, the council of the Assistance Publique issued a recommendation that x-ray laboratories should be started in 20 of the hospitals which are under the Assistance. The Director-General therefore nominated a committee to report on the matter, but this committee unfortunately was unable to come to a decision. This was a misfortune, for the x-ray service as it used to be was quite insufficient. For instance, supposing that the surgeon to the Hôtel Dieu saw a patient who had been admitted during the night and who was too ill to be moved. If the surgeon wished to examine the patient by the x rays he had to send a requisition to the x-ray laboratory at the Salpêtrière Hospital. The director of this laboratory then had to take all the necessary apparatus to the Hôtel Dieu and to make the examination. Then he had to go back to the Salpêtrière Hospital to develop his plate and to print proofs, and send them to the surgeon. All this time the patient was kept waiting. The Society of Hospital Medical Officers was much disturbed by this state of matters and at its meeting on Dec. 19th the following resolutions were unanimously carried:—

1. Every hospital should be provided with an x-ray department. 2. This department should include a room fitted with photographic accessories, more especially a dark room for development. 3. The management of the x-ray department should be, subject to the control of the physicians and surgeons, in charge of a young medical

man possessing expert knowledge as well as medical and surgical experience. The post should preferably be given to an *interne* or to a former *interne* and should be thrown open to competition. He should have one or more nurses as assistants and to these nurses should be given the duty of keeping the apparatus in order and of looking after what may be called the photographic *cuisine*. 4. With a view to keep down expenses as far as possible radioscopy should be used in preference to radiography in every case in which it seems that a diagnosis can be made without the use of the latter and only the really poor should be allowed an x-ray photograph for nothing.

It is much to be hoped that the Municipal Council will fall in with these recommendations.

Jan. 6th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Syphilitic New Growth of the Stomach.

PROFESSOR EINHORN of New York has published in the *Munchener Medicinische Wochenschrift* an account of a syphilitic growth of the stomach occurring in a man, 42 years of age. The patient had contracted syphilis 12 years ago and had complained of gastric troubles for seven years, but his weight had decreased by only eight pounds during that time. A growth having a nodular surface and measuring about five centimetres in length and two centimetres in breadth could be felt in the epigastric region. The stomach lay immediately under the growth and reached below the umbilicus. Chemical examination of the contents of the stomach showed the presence of free hydrochloric acid one hour after a test breakfast and there was no residual chyme left in the stomach from the previous day. The case at first appeared to be cancer, but owing to the circumstances that the disease had been in progress for seven years, that the patient's loss of weight had been relatively small, and that free hydrochloric acid was present, the diagnosis of cancer became rather uncertain. Under anti-syphilitic treatment, consisting in mercurial inunctions and the administration of potassium iodide, the growth disappeared in less than six weeks. The patient's weight once more increased and within three months he was free from gastric troubles. Professor Einhorn says that the differential diagnosis between cancer and syphilis in such cases is not easy and that the nature of the lesion is proved only by the success of anti-syphilitic treatment

Death of Professor Schede.

Dr. Max Schede, ordinary professor of surgery at the University of Bonn and director of the University surgical clinic, died at Bonn on Dec. 31st. His decease deprives Germany of one of her prominent surgeons and the German Surgical Association of one of its most active members. Professor Schede was born in 1844 at Arnsberg in Westphalia. From 1862 to 1866 he studied medicine at the Universities of Halle, Heidelberg, and Zürich, and in 1866 he became qualified and took the degree of M.D. at Halle. After having served in the wars of 1866 and 1871 as a volunteer surgeon he became assistant to the late Professor Volkmann, the celebrated surgeon of Halle University, and remained there till 1875 being also recognised as *privat-docent*. In 1875 he severed his University connexions on receiving the appointment of chief surgeon to the municipal hospital of Friedrichshain in Berlin. He lived in Berlin till 1880 when he was appointed chief surgeon to the Hamburg General Hospital. The beautiful hospital of the city of Hamburg, one of the largest in the world, situated at Eppendorf and opened in 1888, was in some particulars constructed in accordance with his recommendations. Although his position at Hamburg was an excellent one owing to his being the most esteemed surgeon of that wealthy city, he nevertheless left Hamburg in order to return to a university career, and in 1895 became ordinary professor of surgery at Bonn, where he remained till his unexpected death. Professor Schede's early publications were chiefly concerned with the treatment of diseases of the joints and especially with the use of drainage. He subsequently published memoirs on the surgery of the nerves, the spinal cord, and the pleura. He also contributed the chapter on the Surgery of the Kidneys to the Handbook of Surgery edited by Professor von Bergmann, Professor von Bruns, and Professor Mikulicz.

Statistics of the Medical Profession in Germany.

Dr. Wehmer's Medical Directory, quoted in the *Vossische Zeitung*, states that there are now 28,127 medical men in Germany, as compared with 27,039 in the previous year, 26,479 in 1900, 26,049 in 1899, 25,178 in 1898, and 24,393 in 1897. The increase of 1088 in the number of medical men from the year 1901 to the year 1902 is an increase of 4 per cent. and is greater than in any previous year. During the last five years the numerical increase of the medical profession was 3734, or 15·2 per cent., while the increase of the general population was 9·3 per cent. As regards distribution throughout the various states it is found that 17,126 medical men reside in Prussia, 2790 in Bavaria, 2148 in Saxony, 1147 in Baden, 937 in Würtemberg, 814 in Alsace-Lorraine, and the remainder in the smaller states of the empire. There are 2366 medical men in Berlin, 583 in Munich, 573 in Hamburg, 548 in Breslau, 433 in Dresden, 431 in Leipsic, 344 in Cologne, 354 in Charlottenburg, 338 in Frankfort, and 304 in Königsberg.

Prophylactic Use of Anti-diphtheritic Serum.

The Imperial Health Office is at present making arrangements for the holding of a collective investigation on the use of anti-diphtheritic serum as a prophylactic, and with this object blank forms to be filled up have been sent to all the medical men in Germany. They are, in the first place, asked to state whether this serum has ever been used by them as a prophylactic, and if so they are requested to give particulars of the number of cases, the age of the patients, the number of units injected in individual instances, and the occurrence, if any, of undesirable complications due to the injections. The replies will also specify the number (1) of those who contracted diphtheria after having received prophylactic injections, and (2) of those who escaped it. Finally, the Health Office asks: "Are you persuaded by your personal experience that prophylactic injections are useful?" The results of the collective investigation will be communicated to the International Congress on Hygiene to be held in Brussels.

Jan. 5th.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

The Medical Congress.

THE Congress is now over and I have the authority of the foreign professors and other visitors for stating that it was a great success and that most of them were surprised to find how much scientific work is being done in Cairo. Those of us who live here had the advantage of hearing interesting papers from Europe and America on such subjects as tuberculosis, malaria and its complications, typhoid fever, dengue, and yellow fever, while we found highly interested audiences in the discussions on ankylostomiasis, bilharziosis, dysentery, hepatitis, abscess of the liver, bilious typhoid fever, pellagra, leprosy, insanity due to hasheesh, cholera, plague, and other diseases more peculiar to Egypt. The secretary-general at the closing general meeting, in the name of the committee, drew special attention to the success of the medical section, which was graced by the presence of Professor Bouchard, Professor Nothnagel, Professor Maragliano, Professor Chantemesse, Professor Lortet, Professor Teissier, Professor Mariani, Professor Pasquale, and many others. Dr. Looss contributed two interesting papers, the first proving that the skin of man and dog will allow the entrance of the larvæ of the ankylostomum worm, and the second giving the life-history of distoma hæmatobium and suggesting that it also may sometimes enter the skin and account for some of the mysterious ravages that are grouped together under the term "bilharzia." Kasr-el-Ainy Hospital was inspected by many interested visitors who saw there several cases of clinical interest, and some special demonstrations given by Dr. F. M. Sandwith on pellagra, leprosy, and ankylostomiasis were well attended. The surgical section, though less popular than the medical, did some very good work and Mr. Reginald Harrison's papers on prostatectomy and calculus were very well received. The ophthalmic section devoted most of its sittings to the consideration of granular ophthalmia and how to prevent its spread in Egypt. The pathological museum of the medical school elicited the highest praise. The specimens are prepared with great care by Dr. W. St. C. Symmers by the formol method and are preserved in glycerine so as to show their original colours. As might be expected in Egypt there is a unique

series of bilharzia lesions of the bladder, ureters, kidneys, urethra, vulva, uterus, broad ligament, rectum, colon, liver, &c., kidneys affected by ankylostoma, specimens of the red and black variety of Madura foot, dysenteric ulcerations, and specimens of elephantiasis. But what pleased our visitors most was the unique collection in the anatomical museum, arranged by Dr. G. Elliott Smith, of specimens taken from various cemeteries in Upper Egypt, which showed human remains dating from prehistoric times, at least 7000 years ago, up to the present day.

Fêtes and Receptions.

On Sunday the sections only met in the morning, for at 2 P.M. all the members of the Congress and their wives were invited by the Khedive to proceed in four of his steamers down the Nile to see the barrage which now, under English management, has for many years done for Lower Egypt what the new granite dam at Assouan will accomplish for Upper Egypt. On the next evening an Arab *fête* was given by the President and secretary-general of the Congress, where about 800 guests had an opportunity of becoming acquainted with Egyptian singing, dancing, and conjuring tricks. On the following day the Ministers received the members of the Congress after their sixth and final section meeting at the new Museum of Antiquities, where M. Maspero and his staff conducted eager crowds to see the famous collection of Egyptological remains. On the same evening the Khedive had invited the Congress to a ball at Abdeen Palace, but owing to the death of a princess this became impossible and therefore, to mitigate the disappointment of the visitors, he changed his invitation into an afternoon reception where he personally received all his guests. The final meeting of the Congress was, at the Khedive's command, presided over by the Minister of Public Instruction, and complimentary speeches were made by all the foreign delegates, after which Professor Nothnagel delivered a most interesting address in German on Prophylaxis, followed by Professor Maragliano with a paper in French on Nephritis. It is needless to say that there were the usual number of private parties of hospitality, including a dinner given by the School of Medicine to some of the prominent visitors, a French banquet in honour of Professor Bouchard, to which four English medical men were courteously invited, and some popular dances given by the hotels. The next Egyptian medical congress is to take place in Cairo in December, 1907.

Cairo, Dec. 28th, 1902.

Obituary.

PAUL QUICK KARKEEK, M.R.C.S.Eng., L.S.A.

MR. PAUL QUICK KARKEEK died at his residence, "Isca," Torquay, on Dec. 27th, in his sixtieth year. On Dec. 2nd he had an attack of cerebral hæmorrhage whilst sitting in his drawing-room, preparing a lecture which he was to deliver a few days later. During the following three and a half weeks he was in an unconscious state, and although there were occasional slight signs of returning consciousness but little hope was ever entertained of his recovery. Mr. Karkeek was born in Truro and belonged to an old Cornish family. He was educated at Probus Grammar School and then went to St. Bartholomew's Hospital, qualifying as M.R.C.S.Eng. and L.S.A. in 1865. He was then appointed house surgeon to Chester Infirmary. Later he was elected assistant surgeon to the Seamen's Hospital, Greenwich. On relinquishing that post he studied medicine at Heidelberg, Berlin, Vienna, and Paris. In 1870 he returned to England, married, and purchased a practice at Torquay. In 1878 he was elected medical officer of health of that town, which appointment he held until the time of his death. Mr. Karkeek was a most energetic medical officer and it was largely owing to his efforts that Torquay has such an efficient water-supply. He also instituted an excellent system of dairy registration in the town. Mr. Karkeek was an active member of the Torquay Natural History Society, and it was during his presidency in 1894 that the society commemorated its jubilee, having been founded by Mr. Pengelly in 1844, by adding the "Pengelly Memorial Hall" to the museum buildings. The members made a handsome presentation to Mr. Karkeek in appreciation of his services in connexion with the event. Mr. Karkeek was highly esteemed in Torquay and much sympathy is felt there for his widow.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Isidor Herrnheiser, the editor of the *Prager Medicinische Wochenschrift*, has died from an apoplectic attack.—Dr. Salomon Ehrenhaus of Berlin, one of the instructors of pediatry in the vacation courses. He translated Espine and Picot's "Manual of Children's Diseases" into German.—Professor Krafft-Ebing of Gratz, the well-known authority on criminal lunacy and on all forms of neuro-pathology. He was 62 years of age and had been ill for a considerable period.—Dr. Michael Umnoff, formerly Professor of Comparative Anatomy in the University of Kazan, at the age of 75 years.—Dr. Zaayer, Professor of Anatomy in the University of Amsterdam, suddenly, in his sixty-fifth year. He had published papers on the Structure of the Osseous System, on the Condition of Bodies which have died from Arsenical Poisoning, &c.—Dr. Rapin, Professor of Midwifery in the University of Lausanne, at the age of 56 years.—Dr. Nicoladoni, Professor of Clinical Surgery in the University of Gratz.—Dr. Erlitzky, a St. Petersburg alienist.—Dr. A. Hénocque, vice-president of the Paris Biological Society.—Dr. Xaroyenne, Professor of Gynæcology and Director of the Gynæcological Clinic in Lyons.

Medical News.

UNIVERSITY OF LONDON.—At examinations held recently the following candidates were successful:—

M.B. EXAMINATION (HONOURS).

Medicine.—First Class: Alexander Cameron (gold medal), Middlesex Hospital; James Alane Coupland, Yorkshire College and General Infirmary, Leeds; *Charles Seymour Parker, University College; and Robert Pugh Rowlands (scholarship and gold medal), Guy's Hospital. Second Class: Ernest Rock Carling, Westminster Hospital; Lucian A. E. De Zilwa, B.Sc., University College and École de Médecine, Paris; Charles Ernest Lakin, Middlesex Hospital; Wilfred George Mumford, Guy's Hospital; and Christopher Thackray, Owens College. Third Class: Hanway Richard Beale, St. Thomas's Hospital; Henry Tregelles Gillett, St. Bartholomew's Hospital; Andrew Ferguson Horn, University College; Gerald Stephen Hughes, Middlesex Hospital; Mabel Halden Naylor, London (Royal Free Hospital) School of Medicine for Women; Cecil William Rowntree, Middlesex Hospital; and Ernest Wethered, St. Bartholomew's Hospital.

Obstetric Medicine.—First Class: Ernest Rock Carling (scholarship and gold medal), Westminster Hospital; Lucian A. E. De Zilwa, B.Sc. (gold medal), University College and École de Médecine, Paris; Reginald Cheyne Elmslie, St. Bartholomew's Hospital; and Charles Seymour Parker, University College. Second Class: Michael Ably Collins, Guy's Hospital; Friedrich Gröne, St. Bartholomew's Hospital; and Harold Edward Ridewood, London Hospital. Third Class: Ethel Florence Ireteil, B.A., London (Royal Free Hospital) School of Medicine for Women; Charles Ernest Lakin, Middlesex Hospital; and Winifred Thorp, London (Royal Free Hospital) School of Medicine for Women.

* Obtained the number of marks qualifying for the gold medal.

M.D. EXAMINATION.

Medicine.—William Fielding Addey, B.S., University College; William Blair Bell, King's College; Arthur Bevan, St. Thomas's Hospital; Albert Henry Bygott, St. Mary's Hospital and Birmingham University; Arthur Ernest Clarke, Guy's Hospital; David Leighton Davies, B.S., University College; Adèle Isabella De Steiger, London (Royal Free Hospital) School of Medicine for Women; Thomas Henry Bourne Dobson, Guy's Hospital; Arthur Eastwood, St. Bartholomew's Hospital; Henry Percival Ferraby, Guy's Hospital; *Edward Alfred Gates, St. Thomas's Hospital; Dudley George Greenfield, Guy's Hospital; Harold Hartley, Owens College, Manchester Royal Infirmary, and North Staffordshire Infirmary and Eye Hospital; William Liversidge, University College; George Norman Meachen, B.S., and William Tayler Milton, M.S., Guy's Hospital; Adeline Mary Roberts, B.S., London (Royal Free Hospital) School of Medicine for Women; William Trethowan Rowe, B.S. (gold medal), and Penry William Rowland, St. Bartholomew's Hospital; Alfred Bertram Soltau, London Hospital; Cuthbert Allan Sprawson, B.S., King's College; James Ernest Stratton, University College and General Hospital, Wolverhampton; Hackworth Stuart, University College; Lewis Augustus Walker, St. Bartholomew's Hospital; Ralph Paul Williams B.S., King's College; and William Henry Wynn, B.Sc., Birmingham University and Queen's Hospital.

State Medicine.—William Willoughby Kennedy, Glasgow University and St. Bartholomew's Hospital; Thomas Henry Craig Stevenson, B.S., University and Yorkshire Colleges; and Wilfred Watkins-Pitchford, St. Thomas's Hospital.

* Obtained the number of marks qualifying for the gold medal.

B.S. EXAMINATION.

First Division.—Walter Fedde Fedden, St. George's Hospital; Mary Hannah Frances Ivens, London (Royal Free Hospital) School of

Medicine for Women; Lawrence Jones, St. George's Hospital; Cyril Alfred R. Nitch, St. Thomas's Hospital; and Sydney Richard Scott, St. Bartholomew's Hospital.

Second Division.—Edward Walter Bain, London Hospital; Ernest Gilbert Bark and Frank Barnes, Birmingham University; William Henry Bowen, Guy's Hospital; Sidney Herbert Bown, University College; Harold Burrows, St. Bartholomew's Hospital; Percy William Leopold Camps, Guy's Hospital; Olive Claydon, London (Royal Free Hospital) School of Medicine for Women; Michael Abdy Collins, Guy's Hospital; Harold Collinson, Leeds General Infirmary; David Ellis, London Hospital; Reginald Cheyne Elmslie, St. Bartholomew's Hospital; Harold Arthur Thomas Fairbank, Charing Cross Hospital; John Grimshaw, M.D., London Hospital; Stanley Hodgson, University College and Guy's Hospital; Andrew Ferguson Horn, Alfred Ernest Jones, and Thomas Lister Llewellyn, University College; Herbert W. Lyle, M.D., King's College; Edward Lister Martin, St. Bartholomew's Hospital; Mabel Halden Naylor, London (Royal Free Hospital) School of Medicine for Women; William Paynter Noall, Owens College and Manchester Royal Infirmary; Alfred Geisthorpe Osborn, Guy's Hospital; Herbert Dean Pollard, London Hospital; Robert Pugh Rowlands, Guy's Hospital; Charles Cecil Connock Shaw, St. Mary's Hospital; Christopher Thackray, Owens College; Winifred Thorp, London (Royal Free Hospital) School of Medicine for Women; William Howard Unwin, Charing Cross Hospital; Frederick Edward Walker, Guy's Hospital; and Charles Wynn Wirgman, University College.

Honours.—First Class: Lawrence Jones, St. George's Hospital; Cyril Alfred R. Nitch (scholarship and gold medal), St. Thomas's Hospital; and Sydney Richard Scott (gold medal), St. Bartholomew's Hospital. Second Class: Walter Fedde Fedden, St. George's Hospital; and Mary Hannah Frances Ivens, London (Royal Free Hospital) School of Medicine for Women.

M.S. EXAMINATION.

Felix Bolton Carter, M.D., University College; Herbert Sherwell Clogg (gold medal), Charing Cross Hospital; and Herbert Lightfoot Eason, M.D., and Russell Henry Jocelyn Swan, Guy's Hospital.

N.B.—The last three foregoing lists, published for the convenience of candidates, are provisional only and are not final until the reports of the examiners shall have been confirmed by the Senate.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Pagel, *privat-docent* of the History of Medicine, Dr. A. Wassermann, assistant to Professor Koch in the Infectious Diseases Institute, and Dr. Kobianck, *privat-docent* of Gynæcology, have been promoted to extraordinary professorships, as have Dr. L. Katz, *privat-docent* of Otology, and Dr. Georg Joachimsthal, *privat-docent* of Orthopædic Surgery, to titular professorships. Dr. Erich Lexer, *privat-docent* of Surgery, has been promoted to an extraordinary professorship. Dr. Oskar de la Camp, physician to the Charité, has been recognised as *privat-docent* of Medicine.—*Berne:* Dr. Gurwitsch has been recognised as *privat-docent* of Anatomy, Dr. Arnd and Dr. Wildbolz as *privat-docenten* of Surgery, Dr. Hegg as *privat-docent* of Ophthalmology, and Dr. A. Schönemann as *privat-docent* of Otology and Laryngology.—*Breslau:* Dr. Tietze, *privat-docent* of Surgery, has been promoted to a titular professorship; and Dr. Bonhoeffer, *privat-docent* of Mental Diseases, and Dr. Kausch, *privat-docent* of Surgery, have been similarly promoted to titular professorhips.

THE LATE MR. JOHN ELLIOT, M.R.C.S. ENG.—Mr. Elliot died at his residence, Beresford, Kingsbridge, Devon, on Dec. 18th, aged 68 years. The deceased was the eldest son of the late Mr. J. Elliot, of Tresillian, and belonged to an old and honoured family which can be traced back for 300 years. Mr. Elliot had been in practice in Kingsbridge for about 30 years, at first in partnership with his father and later was joined by his youngest brother, Mr. E. A. S. Elliot. The deceased was formerly medical officer to the workhouse and to the local friendly societies. Mr. Elliot was a widower. By his death Kingsbridge has lost an old and highly esteemed townsman and one who for many years entered into all the philanthropic and charitable movements in the town.

ROYAL ALBERT HOSPITAL, DEVONPORT.—The annual meeting of the subscribers to this institution was held on Dec. 18th under the presidency of Viscount Clifden. The medical report stated that during the past 12 months 599 in-patients had been treated, against 532 in the previous year, the daily average number of occupied beds being 43·15. In the lock wards 154 women were treated. 165 patients were sent to the Pearn Convalescent Home. 1515 members are on the books of the provident branch of the hospital, compared with 1697 on the same date the previous year. The financial statement showed that during the past year the income amounted to £4034 and the expenditure to £5900, leaving an unfavourable balance of £1866. It was stated that a special committee had examined the accounts very minutely and could not find any item in the expenditure which it considered ought not to have been incurred. A long discussion followed the reading of the report in reference to the financial position of the hospital and it was decided to use every effort to enlist the support of the community at large. It is to be hoped that the public meetings which are to be held in Devonport and Stonehouse to arouse greater interest in the institution will result in a large and permanent increase of revenue for this excellent charity.

DR. F. SIDNEY GRIMSHAW, of Stillington, Yorks, has been awarded a fee of £5 by the Easingwold board of guardians, as extra remuneration for the successful performance of a surgical operation not included in the schedule.

THE LATE MR. GEORGE EVANS, M.R.C.S. ENG., L.S.A.—The funeral of Mr. Evans in Seaton parish churchyard on Dec. 13th was very largely attended, amongst those present being Sir John Kennaway, M.P., and Sir E. de la Pole. The deceased, who was 76 years of age, was highly respected in Seaton. He was formerly district medical officer of the Axminster and Honiton unions and medical officer of health of the Axminster rural district council. Mr. Evan leaves seven sons, two of whom are members of the medical profession.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—Mr. James Elias, M.R.C.S. Eng., L.S.A., who has been medical officer of health during the past six years of the borough of Neath, has recently been presented with a silver salver upon the occasion of his leaving Neath.—Mr. J. C. Heaven, M.R.C.S. Eng., L.R.C.P. Lond., has recently been presented with some pieces of silver plate by the members of the West of England and South Wales Branch of the Incorporated Society of Medical Officers of Health upon his resigning the secretaryship of the branch, a position which he has held since its establishment seven years ago.—Mr. W. Ffennell MacCarthy, M.D., B.Ch. T.C. Dub., has recently been presented by the members of the Worcester ambulance class with a gold-mounted umbrella.

DONATIONS AND BEQUESTS.—Under the will of Mr. Eli Parkinson Ackroyd, of Shipley, Bradford, the Bradford Royal Infirmary and Dispensary and the Bradford Children's Hospital will each receive £4000.—Mr. John Heneage of Richmond, has bequeathed, subject to certain bequests, his residuary estate in equal shares to the Royal Hospital at Richmond, to the Royal Free Hospital, to the Middlesex Hospital, and to the Home for Incurables at Putney.—The governors of the North-West London Hospital have received from the executors of the late Francis Thomas Freeman a donation of £750 out of the sum for distribution amongst charities at their discretion.—Mr. Thomas Cole of Sheffield by his will bequeathed £1000 to the Sheffield Royal Hospital, £1000 to the General Infirmary, Sheffield, and £1000 to the Jessop Hospital for Women.—Mrs. E. Dash of Bristol has bequeathed £1500 to the Bristol General Hospital, £500 to the Bristol Royal Infirmary, £500 to the Children's Hospital, Bristol, £500 to the Bristol Eye Hospital, and £500 to the Bristol Lock Hospital.

PUBLIC HEALTH IN HONG-KONG.—In his report on the health and sanitary condition of Hong-Kong for the year 1901 Dr. J. M. Atkinson, the principal civil medical officer of the colony, states that the estimated population for 1901 was 300,660 and that during the year there were 1088 births and 7082 deaths. The birth-rate was therefore 3·6 per 1000 and the death-rate was 23·5 per 1000; for Chinese the death-rate was 23·7 per 1000, while for non-Chinese it was 20·5 per 1000. Plague existed in the colony during the whole of 1901, this being the fourth successive year in which it has appeared in an epidemic form. As in 1900, so in 1901, the period from April to July has been the season of greatest prevalence. The numbers notified during each of these months in 1901 were as follows:—April, 160; May, 701; June, 551; and July, 109; making a total of 1521 notifications for these four months, with only 130 notifications for the other eight months of the year. Of the 7082 total deaths 1562 were due to plague. When a death from plague has taken place in a Chinese house it is not unusual for the body to be carried out and left either in the street or in a boat in the harbour; 308 such cases occurred in 1901 and they to a great extent account for the annual recurrence of the disease, as of necessity the houses from which the bodies come are not disinfected. During the first six months of 1901 48,000 rats were destroyed. With a view to diminish the number of mosquitoes and thereby

to reduce the amount of malarial fever much work has been done in removing undergrowth and draining stagnant pools of water; some benefit appears to have resulted, only 541 deaths amongst the Chinese from malarial fever being returned in 1901, as compared with 887 in 1900.

BOOKS, ETC., RECEIVED.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83-89, Great Titchfield-street, Oxford-street, W.

The Diseases of Warm Countries. A Handbook for Medical Men. By Dr. B. Scheube, State Physician and Sanitary Adviser, Greiz; late Professor at the Medical School in Kioto (Japan). Translated from the German by Pauline Falcke. With Addenda on Yellow Fever by James Cantlie, M.B., F.R.C.S.; and on Malaria by C. W. Daniels, M.B., M.R.C.S. Edited by James Cantlie, M.A., M.B., F.R.C.S., D.P.H., Lecturer at the London School of Tropical Medicine. With Maps, Charts, &c., from *The Journal of Tropical Medicine*. Second revised edition. Price 30*s.* net.

KING, P. S. AND SON, Orchard House, 2 & 4, Great Smith-street, Westminster, S.W.

Report of the Proceedings of the Third International Congress for the Welfare and Protection of Children, held in London 15th-18th July, 1902, under the patronage of His Majesty King Edward VII. President, the Earl Beauchamp, K.C.M.G. Edited for the Executive Committee of the Congress by Sir William Chance, Bart., Honorary Treasurer. Price 2*s.* 6*d.* net.

"KNOWLEDGE" OFFICE, 326, High Holborn, W.C.

"Knowledge" Diary and Scientific Handbook for 1903. Price 3*s.* net.

LEWIS, H. K., 136, Gower-street, W.C.

Transactions of the Dermatological Society of Great Britain and Ireland. Edited by Arthur Shillitoe, F.R.C.S., and Wilfrid B. Warde, M.D. 1901-1902. Vol. viii. Price not stated.

LEWIS, JAMES, 13, High-street, Selkirk.

A Doctor's Thoughts. By Clement B. Gunn, M.D., Author of "Lays of St. Andrews and Memories of a Modern Monk." Price not stated.

"MARK-LANE EXPRESS" Office, 1, Essex-street, Strand, W.C.

The Agricultural Annual and "Mark-lane Express" Almanack, 1903. (Guide to Farming, Stock-keeping, &c.) Price 6*d.*; by post 9*d.*

OLSEN, O. C. AND CO., Copenhagen.

Contributions from the University Laboratory for Medical Bacteriology to Celebrate the Inauguration of the State Serum Institute. Edited by Carl Jul. Salomonsen. Price not stated.

PUBLISHING OFFICES, 64, Finsbury-pavement, E.C.

The South African Year-book, 1902-1903. (First year of issue). Price 10*s.* 6*d.* net.

ROUSSET, J., 36, Rue Serpente, Paris.

Hygiène et Traitement de l'Herpétisme. Herpétisme des Organes Genito-urinaires. Par le Dr. Edmond Braye, Lauréat des Hôpitaux, Rédacteur à la Gazette des Hôpitaux et à la Presse Medicale. Price 3 francs.

RUDALL, CARTE, AND CO., 23, Berners-street, W.

The Professional Pocket Book, or Daily and Hourly Engagement Diary for 1903. Specially adapted for Professional Engagements. Price not stated.

SAUNDERS, W. B., AND CO., Philadelphia and London.

Atlas and Epitome of Traumatic Fractures and Dislocations. By Prof. Dr. H. Helferich, Professor of Surgery at the Royal University, Griefswald, Prussia. Authorised translation from the German, edited by Joseph C. Bloodgood, M.D., Associate in Surgery, Johns Hopkins University, Baltimore, Md. Fifth edition, revised and enlarged. Price 12*s.* net.

A Text-book of Obstetrics for Practitioners and Students. By James C. Cameron, M.D., Edward P. Davis, M.D., Robert L. Dickinson, M.D., Henry J. Garrigues, M.D., Barton Cooke Hirst, M.D., Charles Jewett, M.D., Howard A. Kelly, M.D., Richard C. Norris, M.D., Chauncey D. Palmer, M.D., George A. Piersol, M.D., Edward Reynolds, M.D., Henry Schwarz, M.D., and J. Clarence Webster, M.D. Richard C. Norris, M.D., editor. Robert L. Dickinson, M.D., art editor. Second edition, revised. In two Volumes. Price 35*s.* net.

SCIENTIFIC PRESS, LIMITED, 28 and 29, Southampton-street, Strand, W.C.

The Nursing Profession; How and Where to Train. Edited by Sir Henry Burdett, K.C.B. Fourth year. Price 2*s.* net.

SHARLAND, R. L., 38, Churchfield-road, Acton, London, W.

The Scientific Roll and Magazine of Systematised Notes. Conducted by Alexander Ramsay. Bacteria. Vol. 1., No. 6. Price 1*s.*

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, 4, Rue Antoine Dubois, Paris.

Guide Pratique de l'Extraction des Dents. Par le Doctor Bruneau, Dentiste des Hôpitaux. Price 3 fr.

Nouveau Formulaire Magistral de Consultations Infantiles. Par le Dr. H. Dauchez, Ancien Chef de Clinique Adjoint de la Faculté. Price 3 fr.

Guide Pratique des Exercices Physiques (Hygiène et Résultats). Par le Dr. L. Roblot. Deuxième édition. Price 2 fr. 50.

TISKEM CESKE GRAFICKÉ SPOLECNOSTI "UNIE," Prague.

Kystes Hydatiques Pendant Grossesse, l'Accouchement et les Suites de Couches. (Avec un Résumé Français, pag. i.-xxxvi.). By Dr. Jaroslav Franta. Price not stated.

UNIVERSITY COLLEGE, London.

Descriptive Catalogue of the Specimens illustrating Surgical Pathology in the Museum of University College, London. New edition. By Raymond Johnson, B.S., F.R.C.S., Assistant Surgeon to University College Hospital, and T. W. P. Lawrence, M.B., F.R.C.S., Curator of the Museum. Part I. Injuries and Diseases of Bones and Joints; Part II. Injuries and Diseases of the Neuro-Muscular, Vascular, Alimentary, and Respiratory Systems and the Thyroid Gland. Price not stated.

VOSS, LEOPOLD, Hohe Bleichen, 34, Hamburg.

Die Chemisch-physikalische Beschaffenheit der Heilquellen. Vortrag gehalten auf der 74. Versammlung Deutscher Naturforscher und Aerzte zu Karlsbad. Von Prof. Dr. W. Meyerhoffer. Price M.1.

WALKER, JOHN AND CO., Limited, Farringdon House, Warwick-lane, E.C.

Diaries for 1903: "Desk," No. 8 58, cloth, 3*s.* 6*d.*; 4/64, paste grain, 2*s.* 6*d.*; 7/77, American Russia, 3*s.*; "Tablet," No. 4, 2*s.*; 1/31 (Waistcoat-pocket), 6*d.*; "Quarterly pocket," No. 611, 1*s.*; 3/53, cloth, limp, 9*d.*; 2/82, pigskin, 2*s.*; 25/23 (plain black covers); 3/213, real seal, renewable, 11*s.* 6*d.*; 4/184, Morocco, 8*s.* 6*d.*; 17/217, "Graphic," 1*s.*

WHITAKER, J., AND SONS, LIMITED, 12, Warwick-lane, Paternoster-row, E.C.

An Almanack for the Year of our Lord, 1903. By Joseph Whitaker, F.S.A. (Whitaker's Almanack.) Price 2*s.* 6*d.* net.

Whitaker's Peerage for the Year 1903; being a Directory of Titled Persons. Price 2*s.* 6*d.*

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ALLIN, CHARLES J., L.D.S., R.C.S. Eng., has been appointed Honorary Dental Surgeon to the Derbyshire Royal Infirmary.

BATHE, ALLAN ARTHUR, M.A., M.B. Oxon., has been appointed District Medical Officer for the South District of Paddington Parish.

BORLAND, HUGH HOWIE, M.B., C.M., D.P.H. Camb., has been appointed Vaccinator to the Glasgow Royal Infirmary, vice Dr. R. Home Henderson, resigned.

CAMERON, S., M.B., Ch.B., has been appointed Resident Medical Officer to the Chelsea Hospital for Women.

DEANE, CHARLES MASLEN, M.D. Edin., M.R.C.S., has been appointed Port Health Officer and Medical Officer to Police, Gaols, and Paupers, Strahan, Tasmania, vice Mr. P. J. Godfrey, resigned.

FLUX, G. B., M.D. Brux., M.R.C.S., L.R.C.P. Lond., L.S.A., has been appointed Assistant Anæsthetist to King's College Hospital.

GREAVES, F. L. A., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Derbyshire Royal Infirmary, vice Mr. C. H. Hough, resigned.

HARRISON, GEORGE ALFRED, M.R.C.S., L.R.C.P. Lond., has been appointed Public Vaccinator for the Eltham District of New Zealand.

HARRISON, W. A., M.B., Ch.M. Edin., has been appointed District Medical Officer at York, Western Australia.

HEPPER, E. C., M.R.C.S., L.R.C.P., L.M.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

HOLMES, W. S., M.B., Ch.B. Vict., has been appointed Junior House Surgeon to the Oldham Infirmary.

HOWE, JOHN, M.B., Ch.B. Vict., has been appointed Medical Officer and Public Vaccinator to the District of Levenshulme and part of West Gorton (No. 8) of the Chorlton Union, Manchester.

HUTCHENS, H. J., D.S.O., has been appointed Assistant Bacteriologist to the West Riding of Yorkshire County Council.

MCCOY, S. H., M.B., B.A. Toronto, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MCNAIR SCOTT, R. F., B.A., M.B., Ch.B., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MORRIS, J. M., M.A., M.B., C.M. Edin., has been appointed Medical Officer of Health for the Borough of Neath, *vice* Mr. James E. Elias, resigned.

MURPHY, J. MONTAGUE, L.D.S.R.C.S. Eng., has been appointed Honorary Dental Surgeon to the Derbyshire Royal Infirmary.

MURRAY, G. S., M.B., Ch.B. Edin., has been appointed Senior House Surgeon to the Oldham Infirmary.

NICHOLLS, ALFRED ROBERT, L.R.C.P. Lond., M.R.C.S., has been re-appointed Medical Officer for the Langport (Somerset) Rural District Council.

PERNET, GEORGE, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant to the Skin Department of University College Hospital.

PERROTT, CHARLES J., L.R.C.P., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Kingswood (Gloucestershire) Urban Council.

PORTER, CHARLES, M.D., B.Sc. Edin., M.R.C.P. Edin., has been appointed Demonstrator in Bacteriology to the Public Health Hospital, Leith.

RINDER, A. W., M.R.C.P. Edin., has been appointed Surgeon to the Broad Arrow Hospital, Western Australia.

SAVAGE, W. G., M.D. Lond., has been appointed Medical Officer of Health for the Borough of Colchester.

TOSWILL, JOHN CECIL, M.B., M.S. Edin., has been appointed Public Vaccinator for the Hastings District of New Zealand.

WILLEY, FLORENCE E., M.B., B.S., B.Sc. Lond., has been appointed Surgical Registrar to the Royal Free Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Senior Resident Male House Surgeon. Salary £100 per annum, with board.

BIRMINGHAM, QUEEN'S HOSPITAL.—Second Physician for out-patients. Also Pathologist.

BRADFORD ROYAL INFIRMARY.—House Surgeon, unmarried, Salary £100 per annum, with board and residence.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Physician to Out patients. Also Second House Physician for six months. Salary at rate of £30 per annum, with board, lodging, and washing.

DERBYSHIRE ROYAL INFIRMARY.—Two House Surgeons. Also House Physician. Salary in each instance £100 per annum, with apartments, board, &c. Also Assistant House Surgeon for six months. Salary at rate of £80 per annum, with apartments, board, &c.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Senior House Surgeoncy. Salary £100 per annum, with board, residence, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway.—Junior House Physician for six months. Salary at rate of £30 per annum, with board and washing.

GROSVENOR HOSPITAL FOR WOMEN AND CHILDREN, Vincent-square, Westminster.—Assistant Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

LANCASHIRE COUNTY ASYLUM, Whittingham, Preston.—Assistant Medical Officer, unmarried. Initial salary £150, with apartments, board, washing, and attendance.

LIVERPOOL HOSPITAL FOR CONSUMPTION.—Medical Officer. Salary £70 per annum.

LONDON LOCK HOSPITAL.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer, unmarried. Salary £150 per annum, with board and residence.

METROPOLITAN ASYLUMS BOARD ASYLUM, Darenth, Dartford, Kent.—Male Assistant Medical Officer, unmarried, £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—Surgical Assistant (female). Also two Clinical Assistants.

ROCHESTER SAINT BARTHOLOMEW'S HOSPITAL.—Assistant House Surgeon. Salary £100 per annum, with board, lodging, washing, firing, and light.

ROYAL HANTS COUNTY HOSPITAL, Winchester.—House Physician, unmarried. Salary £60 per annum, rising to £75, with board, residence, &c.

ROYAL ISLE OF WIGHT COUNTY HOSPITAL, Ryde.—Resident House Surgeon. Salary £90.

SALISBURY GENERAL INFIRMARY.—Assistant House Surgeon, unmarried. Salary at rate of £75 per annum, with apartments, board, and lodging.

SHEFFIELD EAST END BRANCH OF THE CHILDREN'S HOSPITAL.—Lady House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SHEFFIELD ROYAL HOSPITAL.—Junior Assistant House Surgeon, unmarried. Salary £90 per annum, with board, washing, and lodging.

WREXHAM INFIRMARY.—Resident House Surgeon. Salary £100 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

CHAWNER.—On Jan. 2nd, at Clay Cross, the wife of Alfred Chawner, L.R.C.P., M.R.C.S., of a son.

DAVIES.—On Dec. 28th, 1902, at West Park, Eltham, the wife of Lieutenant-Colonel A. M. Davies, R.A.M.C., of a daughter.

GASH.—On Dec. 22nd, 1902, at Auburn, Snodland, Kent, the wife of Thomas Gash, M.B., B.Ch., B.A.O. R.U.I., of a son.

SUTHERLAND.—At 5, Osborne-place, Dundee, on the 4th inst, the wife of L. R. Sutherland, M.B., Professor of Pathology, University of St. Andrews, a daughter.

WATSON.—On Dec. 31st, 1902, at Hendre, Overton Park, Cheltenham, the wife of Deputy-Surgeon-General George Alder Watson, Bengal Army (retired), of a son.

MARRIAGES.

BAKER—ROW.—On Dec. 31st, 1902, at the Catholic Apostolic Church, Carlton-hill, Brighton, Clement John Baker, M.R.C.S., L.R.C.P. Lond., to Jessie Caroline Mary, second daughter of the late Major-General William Skene Row, Bengal Staff Corps.

DEATHS.

COLMAN.—On 2nd January, 1903, at Nottingham-place, London, W., Thomas John Colman, of the City of Bristol, M.D., aged 60.

VIVIAN.—On Jan. 6th, at 8, Hunter-street, London, Margaret Cordelia Vivian, aged 4 years, of pyæmia. R.I.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PRESCRIBING IN THE LAY PRESS.

WE are quite accustomed to see advice and prescriptions to patients whom the prescriber has never seen given by irregular practitioners in the columns of the *Echo* and various ladies' journals, but we must say that we never expected to see a fully-qualified medical man giving advice under his own name to correspondents of a newspaper. And yet in a recent number of the *Burton Evening Gazette* is a column headed "Health and Home," by W. Gordon Stables, M.D., R.N. Dr. Stables discourses in a general fashion about convalescence and cheerfulness and the need for being careful not to catch cold in bed, all of which advice is very fairly sound. But at the bottom of the column come some answers to correspondents. For instance, "E. R. P." is told, "Savours strongly of kidney trouble. It would not be right to advise you in three lines what to do. Consult the best man in your neighbourhood." This advice, as regards its matter, we have no quarrel with. But further on we read, "Bleeding Piles (C. T. B.). The same ointment I frequently recommend—the compound gall, with double the quantity of powdered opium. But the bowels must be kept open by confection of senna (compound) and everything of the nature of stimulants avoided." "To Many (Skin Complaints, Surgical Ailments, and Baby Troubles) I cannot advise upon these without seeing. This surely stands to reason." Exactly so; then why does Dr. Stables advise upon other complaints "without seeing"? Can he be certain, for instance, that "Bleeding Piles" is not rectal cancer? We recommend Dr. Stables to leave off prescribing in the press or anywhere else "without seeing."

A PATHOLOGICAL EPITAPH.

To the Editors of THE LANCET.

SIRS,—Mr. Ashton will find the inscription given in his letter in THE LANCET of Nov. 29th, 1902, p. 1500, and referred to in your issue of Dec. 20th, p. 1738, in Richard Mead's "Medical Precepts and Cautions" (1755), article "Of the Dropsy" (p. 167). It is accompanied by the following description of the case which was evidently attended by Mead himself:—

> "A widow lady whose opulent estate served to render her virtues more conspicuous, fell into an *ascites*, in the fifty-first year of her age. For this she was tapped; but as she soon filled up again the operation was repeated once a month for the first year; and at each tapping, one with another, there were drawn off forty-four pints of water. The next year she was likewise tapped every month and the whole quantity being equally divided made twelve pints each week. The third year the quantity of water began to diminish, so that there was but twenty-four pints for every month. And in the fourth and fifth years and seven months of the sixth in which time she underwent thirty tappings, each tapping amounted only to sixteen pints. After the last time she began to grow weak and waste away; and she was seized with almost a constant difficulty of breathing as we observe in a dropsy of the breast, attended with frequent faintings; whereas before, through the whole course of the disease, in the intervals of tapping, she was cheerful in conversation, used exercise, and even diverted herself with dancing. But now life began to sit heavy upon her and she died at length a very easy death. Now it is very surprising that a human body in that space of time could furnish such a vast quantity of water—to wit, 1920 pints; and it is my opinion that this water was first collected in the ovaries. In fine, this good lady for the information of posterity ordered by her will that the following English inscription should be engraved on her monument. [Here follows the inscription as given by Mr. Ashton except that the date of death is given by Mead as March IV.] And this monument is now to be seen in Bunhil Fields."

I am, Sirs, yours faithfully,

Florence, Dec. 23rd, 1902. H. LAING GORDON.

THE CHOICE OF A PROFESSION: AN INSPIRING IDEAL.

THE *Police Review and Parade Gossip* of Jan. 2nd, in its "Children's Corner," publishes a little prize essay on "What I Should Like to Be," written by a Welsh lad. The chosen profession is that of medicine and the essay was inspired by the fact that a few years ago the competitor's sister was an inmate of an infirmary. The chief reason for choosing the medical profession is the lad's desire to use his skill and to show his kindness "to the poor little inmates of a children's ward." "It is a sight never to be forgotten," says the writer, "to see a little child being parted from its mother for the first time, and at a time when a mother's love and care is most needed. During the eight months my little sister was away my constant prayer was, 'May the doctors and nurses be kind to Ella.' Another reason why I should like to be a doctor is so that I should be able to be good and kind to the suffering poor. Oftentimes poor people are blamed because they have not called a doctor in sooner. It is not for the want of sympathy and care that they don't seek advice each time that their friends are ailing. It is because they are afraid of the doctor's heavy charges. A single visit sometimes costs

as much as the head of a family gets in a whole week. Unfortunately, it costs so much to qualify to be a doctor that a poor boy, however clever he may be, has very little chance to adopt that profession." The writer of the essay, however, hopes that by winning a valuable entrance scholarship he may be able to enter the portals of the Temple of Æsculapius and we sincerely trust that his aspirations may be fulfilled. Such a lad ought to prove in later years an ornament to our profession, even though, as is probable, his ideal may be dimmed and his good intentions blunted by contact with a cold and unsympathetic world.

BRITISH MEDICAL BENEVOLENT FUND.

BY inadvertence the figures in the paragraph which appeared in our Annus Medicus relating to the above Fund referred to a month's work only. The following are the correct figures for the year 1902. In the grant department subscriptions and donations amounting to £1300 were received during the year. This sum is nearly £300 less than the average for the last ten years and consequently several very distressing cases have had to be passed over. A reserve of £200 was expended, £1532 being voted to 153 recipients in grants varying from £5 to £18. In the annuity department the income available from investments was £2450 and 115 annuitants received £2290. Many of the cases still standing over are in great need of immediate help and money is urgently required to enable the charity to meet the demands made upon it. The committee appeals very earnestly for increased support and especially asks the friends of the Fund to interest others in its work. Subscriptions and donations will be gratefully received by the treasurer, Dr. Samuel West, 15, Wimpole-street, W., or by Mr. W. E. Sargant, St. Bartholomew's Hospital, E.C. (honorary secretary for cases).

THE EVANGELIST BROTHERHOOD.

To the Editors of THE LANCET.

SIRS,—In replying to the somewhat uncharitable clipping from THE LANCET in which your correspondent refers to me as the "Canadian quack," I take up the cudgels, not for myself, but for the thousands of broad-minded investigators scattered throughout this continent who use the same means to promote the cure of disease as I do, whenever practicable. As an Englishman I claim the right of assumed innocence until proven guilty; this is my legal privilege and moral right, even in a Court of Law. Your correspondent denies me even this.

The fact remains that Mr. Colvile has under God's blessing been restored to health by a simple system of treatment which sets up no especial claim other than that of being in accordance with the Divine promise voiced in St. Matt. xviii.-xix. This system has nothing to do with Christian Science so-called, as is often supposed by some, neither is it mystical, magical, nor specially miraculous. It is eminently scientific, being based upon certain laws in physics, and being the demonstration of certain principles in metaphysics, both of which are phases of truth. Personally, I *heal* no one by this method; my aim is to *teach* certain principles, which if followed faithfully bring into being perfected results as a consequence of compliance with laws, which constitute that agreement referred to in St. Matt., xviii.-xix. Perhaps if your journal lent its pages to broad-minded inquiry instead of hard words against those who, like myself, have given up everything they possess in the cause of truth it might assist those suffering millions towards gaining that freedom which only the truth appropriated, assimilated, and manifested can give. As to my charge of £3 10s. many people write to me and my time has a financial value. It has been my privilege to see drunkards reclaimed, so-called "incurables" restored to robust health, the mentally afflicted relieved, and numbers of people of every age, disease, and shade of opinion assisted by this system of healing which is in compliance with Nature's laws.

In conclusion, your journal is welcome to its opinions but owes a duty to the public—viz., to honestly investigate that which once understood so directly pertains and contributes to the public good. I conclude by quoting the much worn passage, "There are more things in heaven and earth, Horatio [and on this continent], than are dreamt of in your philosophy."

Yours in the cause of truth,

Winnipeg, Man., Dec. 2nd, 1902. H. AYLMER HARDING.

*** No correspondent has denied "Professor" Aylmer Harding anything. We have said what we think and his communication does not lead us to alter our opinion of his methods. When a man, not being a medical man, claims in the same breath to be of those who "have given up everything they possess in the cause of truth" and to be entitled to high fees from patients because "my time has a financial value" he is lucky if he is called nothing worse than a quack.—ED. L.

ADVERTISEMENT.

WE have received copies of a circular of the North Croydon Benefit Slate Club which is stated by a correspondent to have been distributed broadcast in the neighbourhood. The circular, which sets out the various advantages to be obtained by males and females between the ages of 16 and 53 years through joining the association, states among these advantages that medical attendance and medicine will be obtained from Dr. Addison. We are informed that this circular has been delivered in one road from house to house, while two of the copies which have been sent to us were picked up lying in the street. Dr. Addison is advised to take immediate steps to stop the publication of a handbill bearing his name and using his professional position as a bait to attract members to the North Croydon Benefit Slate Club. These circulars have been left upon the patients of other medical men and the General Medical Council has expressed a very strong view as to the unseemliness of medical men serving any association or society which touts for members. We shall be glad to learn that Dr. Addison has not only instructed the secretary immediately to suppress the offensive handbill but that its dissemination has been entirely without his knowledge.

AN ATTACHMENT FOR SERVIETTE RINGS AND OTHER ARTICLES USED AT TABLE.

MR. H. B. BUTTERWORTH of Newcastle, Staffordshire, has sent us photographs of what appears to be a useful appliance. At hotels, hydropathic establishments, and other places where considerable numbers sit at table together it sometimes happens that a guest who has sent a plate or cup to be replenished receives back, not the one he had been using, but a plate or cup belonging to someone else. To avoid this unpleasantness Mr. Butterworth has devised, and is about to obtain protection for, a clip which may be fixed on the edge of the plate or cup and bears a number corresponding to that of the guest's place at table, or any other number serving for identification. The clip may also be attached to serviette rings and will answer the purpose of fixing a serviette to the coat or waistcoat.

SPITTING AND THE SPREAD OF TUBERCULOSIS.

THE Public Health Department of the Urban District Council of Acton has issued a notice requesting the public not to expectorate on the ground but into proper receptacles, for it says, "Spitting is the main source of the spread of consumption." This notice has vexed the soul of a gentleman who lives at Acton and who incloses us the following announcement which we suppose is drawn up by himself:—

CONSUMPTION,

PNEUMONIA, THROAT CATARRH, &c.

It is certain all expectorations should be religiously re-swallowed. We have found a simple sip of cold milk with the phlegm in the mouth, forms a perfect throat healer, and this matter together being returned to the system arrests at once the gradual decay, so distressing to witness, if spit away. No Cod Liver Oil or Emulsion needed—no Lozenges to ease the throat. At first sight it may appear unclean, but it is our own impurity, and dust we are and to dust we must return. If the faculty really have decided that this present mode of spitting is a cause of contagion to tens of thousands, then for the welfare of the general public alone, they should at once insist on this being done.

The swallowing of all expectoration would certainly prevent the dissemination of tuberculous matter by sputum, but there is such a thing as auto-infection. Other diseases, such as typhoid fever, are spread by excreta and we do not think that our correspondent would be prepared to carry out his advice to its logical end and consume the other waste products of his economy.

INDUCEMENTS TO DRUNKENNESS.

AN esteemed correspondent has sent us a copy of a circular issued by an institution called the Wine Club, Limited, of 46, Dover-street, a club which offers to its associates (who can become associates without election upon payment of one guinea per annum in advance) the advantages of buying wine cheap. It is not, however, with the constitution or purpose of the Wine Club that we have any fault to find, but with the advertisement which is circulated of a cocktail, which we do not name, prepared and bottled by American merchants who shall also remain anonymous.

THE —— COCKTAILS.

FOR TIRED WOMEN.

As a tonic, —— Cocktails should be in every home. They will put new life in one after a day's hard shopping. Endless worry of household duties can be done away with, if the needed tonic is at hand. As a ladies' drink, "The —— Cocktails" has no equal.

FOR TIRED MEN.

After a busy day, see that you have at home a bottle of —— Cocktails. As an appetizer and general tonic for the business man they have no equal.

We have no hesitation in calling such advertisements wicked. They suggest the ingestion of stimulant in the most dangerous way on the most dangerous occasions.

THE ANTI-VACCINATIONIST.

IN applying to Mr. Mead at the North-Western Police-court on Dec. 13th for an exemption certificate for his child under the Vaccination Act a working man propounded the following conundrum to the learned magistrate:—"If vaccination will keep small-pox away why can't they vaccinate us to make us live for ever?" The application of this "conscientious objector" was refused. In another case heard on the same day at the Thames Police-court a woman pleaded guilty to making a false statement to the registrar when registering the birth of her child. It was stated in evidence that the child was born at 184, St. George's-street, where the parents still lived, but that the registrar had been informed that the birth had taken place at 65, St. George's-street, and that owing to the fact that a number of similar false statements had been made by persons desiring to avoid

having their children vaccinated the Registrar-General had ordered a prosecution in this instance. The defendant frankly told the magistrate when questioned by him that her object in making the false statement was that she might, if possible, avoid having her child vaccinated. The child had since been vaccinated and Mr. Dickinson only inflicted a fine of 40s. and 2s. costs, informing the defendant, however, that for the offence that she had committed a sentence of seven years' penal servitude might be passed. The accurate registration of births is of obvious importance not only with a view to vaccination in due course but also in order that the lives of infants may so far as is possible be protected.

PRACTICE IN CALIFORNIA.

To the Editors of THE LANCET.

SIRS,—In answer to the inquiries of "J. D." in THE LANCET of Dec. 20th, 1902, p. 1738, I beg to inform him that I practised in California for two years. To enable any properly qualified British medical man to practise there he will have to send his diplomas up to the secretary of the University of Southern California at San Francisco and also two certificates from medical practitioners here stating that he is of good honourable repute and of good character in all ways, at the same time applying for a licence to practise there, which he will have to register wherever he commences practice.

I am, Sirs, yours faithfully,

Macclesfield, Dec. 22nd, 1902. J. WESTMORLAND.

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent "J. D.," who, in THE LANCET of Dec. 20th, 1902, p. 1738, asks about practice in California—1. A medical man wishing to practise in the State of California must have a diploma recognised by the Board of Medical Examiners and this diploma must in nowise fall below the standard prescribed by the Association of American Colleges for that year. 2. The applicant must produce this diploma along with an affidavit stating that he is the lawful possessor of the said diploma and that it was obtained in the regular course of instruction and examination. 3. The applicant must furnish satisfactory testimonials of good moral character. 4. In addition to the above he will be personally examined in the following subjects: anatomy, physiology, bacteriology, pathology, chemistry and toxicology, surgery, obstetrics, materia medica and therapeutics, theory and practice of medicine. A general average of 75 per cent. must be obtained. The examination will be, in whole or in part, in writing. The fee is $20, which should accompany the application. The secretary of the board is George G. Gere, M.D. I can certify from inquiries conducted through two channels that these formalities are incumbent on anyone intending to practise in the State of California and I have made a *précis* for your correspondent of the significant parts of the orders and regulations.

I am, Sirs, yours faithfully,

Dec. 20th, 1902. E.

MOTOR-CARS FOR MEDICAL MEN.

To the Editors of THE LANCET.

SIRS,—For the information of your readers I wish to state that I have had a "locomobile steam car" for almost two years. I have worked it in my ordinary rounds, alternately with a horse, in all kinds of weather. I have had no unexpected stoppages on the road. I have looked over my books and find that the cost of running for the whole period has been £56 7s. 11d., of which £26 was for petrol and the remainder was for repairs, renewals, and improvements. The car looks as well as when I bought it and runs much better owing to the improvements I have had added. I find it most useful for long country rounds, it saves so much time.

I am, Sirs, yours faithfully,

Loughborough, Dec. 10th, 1902. THOMAS CORCORAN.

MEDICAL MISSIONARY WORK.

To the Editors of THE LANCET.

SIRS,—I should be glad if any of your correspondents could furnish me with particulars of medical missionary work abroad—as to the societies which send out medical missionaries and the requirements necessary to meet the demands of such societies.

I am, Sirs, yours faithfully,

Jan. 6th, 1903. E. B.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

To the Editors of THE LANCET.

SIRS,—The annual report of the Royal College of Surgeons of Edinburgh affords much useful information and shows that the value of the Fellowship diploma—to judge by the number of admissions—is rapidly rising in the estimation of the profession, and that this increase is not due to any greater leniency on the part of the examiners for 1902, as 36 per cent. of the candidates, as against 21 per cent., were rejected. I think that the explanation lies in the fact that the Edinburgh College has for some years ceased the one-time common custom of admitting Fellows without any professional examination simply by ballot; during the past 10 years this privilege has only been granted six times. I find that out of the 840 Fellows whose names appear on the roll Scotland can only claim 150, and of these 96 reside within the Edinburgh postal radius, and of these 33 are examiners for the Fellowship, while in England and Wales there are 420 Fellows. Of these, many are men holding high positions in our profession, and I submit it is now time the non-resident Fellows should take a more active interest in the affairs of the College. Why should we not form an association of Fellows practising in England? Why should the examinership be confined to Edinburgh men? Would not the inclusion of new men still further advance the value of the diploma? Could not an organised attempt be made to found lectures as in the English College? Now that the College has extended its borders should not the majority take greater interest in its working and be better represented on its committees? I throw out the suggestion and remain,

Yours faithfully,

Jan. 3rd, 1903. F R C.S. EDIN.

PLAGUE IN SAN FRANCISCO.

THE seventeenth annual meeting of the State and Provincial Boards of Health of North America was held at New Haven, Connecticut, on Oct. 28th and 29th, 1902. In its report of the proceedings the December number of the *Yale Medical Journal* states that the following resolution was adopted expressing the opinion of the conference as to the conduct of the health authorities of San Francisco:—

Whereas, Bubonic plague has been present in California since March, 1900, complete information as to the extent of the disease being withheld by the local authorities, no effective measures of restriction having been put into operation .....; and

Whereas, Twenty-five of these cases have occurred in the months of July, August, September, and October, 1902, no information as to their origin or exact location having been furnished, no effective steps having been taken to restrict the spread of the disease, the City Board of Health of San Francisco being helpless, and the mala fides of the State Board of Health of California having been fully established by the foregoing history supported by documentary evidence in the possession of this conference; therefore, be it

Resolved, That the Conference of State and Provincial Boards of Health of North America views with abhorrence the irretrievable disgrace of the present State Board of Health of California, and pronounces the plague situation in California a matter of grave national concern.

Inquirer has omitted to supply us with his name and address.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.) London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.).

WEDNESDAY (14th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M).

THURSDAY (15th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.).

SATURDAY (17th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (12th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Papers:—Mr. B. Pitts: Suppression of Urine in a Case of Ovarian Tumour and Pregnancy, Removal

of Tumour and Uterus, Recovery.—Dr. B. J. Collingwood: The Etiology of Emphysema from the Physical Standpoint.

TUESDAY (13th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Papers:—Prof. C. Allbutt: Rise of Blood-pressure in Later Life.—Mr. P. R. W. De Santi: A Report on Four Cases of Acute Septic Inflammation of the Throat with Bacteriological Examination of Each.

WEDNESDAY (14th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Papers:—Dr. R. Andrews: Some Notes on Obstetric Practice in Berlin and Vienna.—Dr. W. H. Kelson: On Nasal Discharges.

DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—5.15 P.M. Demonstration of Cases of Interest.

SOUTH-WEST LONDON MEDICAL SOCIETY (Bolingbroke Hospital, Wandsworth Common).—8.45 P.M. Paper:—Mr. M. Yearsley: The Indications for the Mastoid Operation.

FRIDAY (16th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5.30 P.M. Specimens:—Mr. T. Walker: (1) Traumatic Cephalhydrocele; (2) Punctured Fracture of the Skull.—Dr. C. W. Chapman: Dilatation of the Stomach in a Child of Eight Years. Paper:—Dr. G. A. Sutherland and Mr. T. Walker: A Case of Syphilitic Endarteritis and Nephritis in an Infant.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Clinique. (Skin.) 5.15 P.M. Dr. S. Taylor: Diseases of the Cardiac Valves.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. A. Saunders: Mental Affections in Childhood.

TUESDAY (13th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Campbell: Clinique. (Medical.) 5.15 P.M. Dr. S. Taylor: Diseases of the Cardiac Valves.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. C. E. Beevor: Cases of Functional Paralysis.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: Whitlow, Cellulitis.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—5 P.M. Prof. A. Macfadyen: The Physiology of Digestion.

WEDNESDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. P. J. Freyer: Clinique. (Surgical.) 5.15 P.M. Dr. W. S. A. Griffith: The Diagnosis of Pregnancy.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. McAdams Eccles: Surgical Anatomy.

THURSDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson, jun.: Clinique. (Surgical.) 5.15 P.M. Dr. H. Campbell: Cerebral Hæmorrhage.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Baldwin: Treatment of Some Injuries and Emergencies.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4 P.M. Clinical Lecture:—Dr. G. P. Chappel: Broncho-Pneumonia in Children and its Treatment.

CHARING CROSS HOSPITAL.—4 P.M. Mr. Boyd: Demonstration of Surgical Cases. (Post-Graduate Course.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Still: Empyema.

FRIDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Clinique. (Ear.) 5.15 P.M. Dr. H. Tilley: Purulent Nasal Discharges.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. R. Jones: Mental Unsoundness amounting to Insanity.

ROYAL INSTITUTION OF GREAT BRITAIN (Albemarle-street, W.).—9 P.M. Prof. Dewar: Low Temperature Investigations.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1902, which was completed with the issue of Dec. 27th, and the Title-page to the Volume, were given in THE LANCET of Jan. 3rd.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1902 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will ensure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.		TO THE COLONIES AND ABROAD.	
One Year	£1 12 6	One Year	£1 14 8
Six Months	0 16 3	Six Months	0 17 4
Three Months	0 8 2	Three Months	0 8 8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, MR. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Jan. 8th, 1903.

Date		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Jan.	2	29·44	S.	0·06	55	53	34	45	46	Raining
,,	3	29·44	S.W.	0·10	66	52	46	47	49	Cloudy
,,	4	29·70	S.W.	0·08	60	52	49	49	52	Cloudy
,,	5	29·63	S.W.	0·84	58	54	50	52	52	Raining
,,	6	29·48	S.W.	0·12	59	54	51	51	53	Cloudy
,,	7	29·28	S.W.	0·05	74	54	48	46	49	Cloudy
,,	8	29·70	S.W.	...	46	46	40	39	41	Foggy

During the week marked copies of the following newspapers have been received:—*The Observer and Chronicle (for Hants and Dorset), Warrington Guardian, St. Pancras Gazette, Yorkshire Post, Sussex Daily News, Colchester Gazette, Belfast News Letter, Birmingham Post, Aberdeen Free Press (Weekly), Folkestone Telegraph, Brighton Gazette, Surrey Advertiser, Bristol Mercury, Dublin Express, Bradford Observer, Morning Post, Essex Herald, Hereford Mercury, Daily Graphic, Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, Burton Chronicle, Dumfries and Galloway Courier and Herald, Walsall Observer, Halifax Evening Courier, &c.*

Communications, Letters, &c., have been received from—

A.—Messrs. D. Appleton and Co., Lond.

B.—Mr. Peyton Beale, Lond.; Mr. George Bale, Plymouth; Dr. A. Bevan, Lond.; Mr. S. S. Bose, Durbhunga, Bengal; Dr. D. T. Barry, Rock Ferry; Messrs. Burroughs, Wellcome, and Co., Lond.; Birmingham General Hospital, Secretary of; Mr. F. A. Brockhaus, Lond.; Dr. Lewis C. Bruce, Murthly; Belfast District Lunatic Asylum, Medical Superintendent of; Mr. O. Berthier, Paris; Mr. H. R. H. Bigg, Lond.; Dr. J. B. Blaikie, Lond.; *Bristol Mercury*, Manager of; Dr. A. M. Barford, Lond.

C.—Mr. R. W. Collum, Lond.; Cortland Wagon Co., Lond.; Messrs. Carr and Co., Carlisle; Messrs. T. Christy and Co., Lond.; Messrs. J. and A. Churchill, Lond.; Dr. N. Cullinan, Risca; Dr. I. Clark, Armadale, N.B.; Cheltenham General Hospital, Secretary of; Mr. H. Clauzier, Lond.; Messrs. J. A. Carveth and Co., Toronto; Chelsea Hospital for Women, Secretary of.

D.—Dr. J. Dunlop, Glasgow; Messrs. W. Duff and Co., Lond.; Mr. H. Dutery, Huntingdon; Mr. E. Darke, Lond.; Denver Chemical Co., New York.

E.—Mr. A. Elliot, Edinburgh Mr. E. Ettinger, St. Petersburg.

F.—Dr. Lena Fox, Lond.; Messrs. Fairchild Bros. and Foster, Lond.; Mrs. E. A. Flinn, Romford; Dr. T. H. Fagge, Monte Carlo; Dr. H. Fraser, Umballa, Punjab; Dr. Theodore Fisher, Clifton; Fellow's Manufacturing Co., Lond.

G.—Dr. H. Willoughby Gardner, Shrewsbury; Messrs. E. George and Sons, Lond.; Dr. W. H. Clayton Greene, Lond.; General Medical Council, Lond., Registrar of.

H.—Dr. J. Hawkes, Shanklin; Hovis Bread Flour Co., Macclesfield; Messrs. Hunt, Roope, Teage, and Co., Lond.; Dr. R. Heslop-Payne, Van Horne, U.S.A.; Staff-Surgeon W. E. Home, R.N., Esquimalt; Mrs. M. Hicks, Hendon; Mr. W. Hart, Lond.; Mr. Reginald Harrison, Marseilles; Mr. W. A. Hewitt, Nottingham; Mr. Robert Hiehl, Lond.; Mr. F. Holland, Bradford.

I.—International Plasmon, Lond.; Messrs. C. Isler and Co., Lond.

J.—Jeyes Sanitary Compounds Co., Lond.; *Journal of the American Medical Association*, New York, Manager of.

K.—Mr. S. R. Keyes, Dartford; Messrs. R. A. Knight and Co., Lond.; Dr. John Knott, Dublin.

L.—London Throat Hospital, Secretary of; Liverpool Royal Infirmary, Secretary of; Mr. F. W. Lowndes, Liverpool.

M.—Mrs. A. Miller, Liverpool; Medical Society of Victoria, Melbourne, Hon. Secretary of; Messrs. Mather and Crowther, Lond.; Manchester Royal Infirmary, Secretary of; Messrs. Macmillan and Co., Lond.; Maltine Manufacturing Co. Lond.; Marmite Food Extract Co., Lond.; Mr. K. Mimachi, Okayama, Japan; Messrs. J. Murdoch and Co., Lond.; Dr. W. Mair, Edinburgh; Dr. J. S. Marr, Ellon; Medical Society of London, Hon. Secretary of.

N.—Dr. F. S. Noble, Brighton; Mr. J. C. Needes, Lond.; Mr. H. Needes, Lond.

P.—Mr. Y. J. Pentland, Edinburgh; Messrs. C. Pool and Co., Lond.; Messrs. J. R. Parkington and Co., Lond.; Mr. T. Prince, Lond.; Mr. C. A. Parker, Lond.; Dr. D. W. Patterson, Newcastle-on-Tyne; Messrs. Peatling and Sons, Wisbech; *Practicheski Vratch*, St. Petersburg; Mr. E. J. Pritchard, Lond.; Messrs. Peacock and Hadley, Lond.; Mr. J. Wicliffe Peck, Lond.; Dr. V. C. Petersen, New York; Dr. P.; Mr. George Pernet, Lond.

Q.—Queen's Hospital, Birmingham.

R.—Major Ronald Ross, Liverpool, Mr. W. Roberts, Lond.; Royal Hants County Hospital, Winchester, Secretary of; Royal Isle of Wight County Hospital, Ryde, Secretary of; *Review of Neurology*, Edinburgh, Editor of; Messrs. Roberts and Co., Lond.; Dr. M. E. Randolph, Teheran; Rebman, Ltd., Lond.; Royles, Ltd., Irlam; Mr. E. J. Reid, Lond.; Messrs. Ross, Lond.; Mr. E. W. Reynolds, New York; Dr. J. W. Rolph, Cincinnati, U.S.A.; Mr. H. J. Robson, Leeds.

S.—Mr. G. H. Sowry, Newcastle; Messrs. W. B. Saunders and Co., Lond.; Surgeon, Rhymney; Dr. W. Muir Smith, Eastbourne; Lieutenant-Colonel B. Skinner, Lond.; Dr. T. W. Smith, Bath; Dr. F. W. M. Stephenson, Blackburn; Dr. Oscar Sachs, Lond.; S. C. L.

T.—Mr. A. H. Tubby, Lond.; Teale Fireplace Co., Wortley; Mr. J. K. T. Tomny, Kimberley; Messrs. T. and H. Smith and Co., Edinburgh; T. F.; T. H.

W.—Dr. Woods-Hutchinson, Portland, Oregon, U.S.A.; Messrs. Wright, Layman, and Umney, Lond.; Wrexham Infirmary, Secretary of; Wolverhampton and Staffs General Hospital, Secretary of; Messrs. Wilson and Son, Manchester; *Wilts County Mirror*, Salisbury, Manager of; Workhouse Infirmary Nursing Association, Lond., Secretary of; Dr. E. E. Wood, Huddersfield; Messrs. Willings, Lond.

Z. Mr. G. H. Zeal, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Messrs. Allen and Hanbury's, Lond.; Apollinaris Co., Lond.; Dr. G. N. Adams, Kenfig Hill; Dr. H. W. Arbuckle, Thorne; Dr. H. R. Andrese, Lond.; A. L.; Dr. A. Anderson, Wadsley; Alec. Shepperton-on-Thames; A. G. W.; A. E. H.; Dr. Anderson, Ipsden.

B.—Dr. D. T. Barry, Birkenhead; Mr. J. T. Brickwell, Lavenham; Dr. L. H. Bruce, West Cornforth; Dr. T. C. Booth, Urmston; Brecon and Radnor Asylum, Clerk of; Messrs. E. G. Berryman and Sons, Lond.; Mr. J. F. E. Bridger, Bridgetown, Barbados; Mr. T. B. Browne, Lond.; Dr. W. J. Bell, Appleby; Mr. T. W. Brimacombe, Southsea; Mr. A. Berrill, South Woodford; Mr. B. Bysack, Khetri, India; Captain C. R. Bakhle, I.M.S., Sukkur, India; Mr. C. A. Ballance, Lond.; Sir Hugh Beevor, Bart, Lond.; Dr. W. E. Barton, Lond.

C.—Mr. C. Campbell, Southport; Mr. D. J. Carroll, Ballynattin; Mr. T. Crowther, Bradford; Dr. S. G. Champion, Dublin; Dr. G. A. Crace-Calvert, Ruthin; Messrs. Corner and Donald, Dumfries; C. B.; Messrs. G. Curling, Wyman, and Co., Lond.; Dr. E. Cameron Cleethorpes; Messrs. Crossley and Co., Lond.; Mr. W. Collins, Winterton; Mr. P. Cook, Vowchurch; Dr. S. R. Collier, Wimbledon Hill; Messrs. J. and A. Carter, Lond.; Mr. B. K. Coomar, Calcutta; Mr. A. Chawner, Clay Cross; Mr. J. Crombleholme, Bourne; Mr. W. Cameron, Kelvinside; Calcutta Medical Club Secretary of; Dr. R. Cook, Leiston.

D.—Mr. P. L. Daniell, Lond.; Mr. W. Drake, Taunton; Messrs. Davy, Hill, and Co., Lond.; Delhi and London Bank, Lucknow, Manager of; Derbyshire Royal Infirmary, Secretary of; Mr. C. W. Davey, Wallingford; Mr. A. Donnamette, Paris; Dr. W. Duff, Wishaw; Mr. W. J. Dunwoody, Bally Bay.

E.—Mr. W. P. Everard, Glasson; Mr. E. A. Edington, Aberaman; Dr. W. A. Evelyn, York; Miss A. F. Elliott, Lond.; E. B. D.

F.—Dr. D. Fraser, Swindon; Mr. H. W. Furnivall, Woodbury; Mr. J. Flach, Lond.; Messrs. J. S. Forsaith and Son, Lond.; Dr. Fernie, Great Malvern; Dr. T. C. Fisher, Lytham; Mr. A. O. M. Fehrsen, Birmingham; F. A. C.

G.—Dr. F. W. Goodbody, Lond.; Messrs. Gillyard Bros., Bradford; Mr. S. Geere, Pokesdown; Messrs. Grace Bros. and Co., Lond.; Dr. L. G. Gunn, Dublin; Dr. L. G. Guthrie, Lond.; Mr. S. T. Griffiths, St. Asaph; Mr. J. Griffiths, Cambridge; Dr. H. J. Godwin Winchester; *Gaelic Times*, Manager of; G. H. O.; Mr. R. J. Goolee, Lond.; Mr. S. G. Gordon, Newry.

H.—Mr. C. J. Heath, Lond.; Dr. F. S. Hardwick, Charing; H. H.; Homeville, Headcorn; Mr. J. E. Hancock, Hurst Green; Mr. A. Hind, Aston; Mr. W. A. Higgs, Castle Combe; Dr. H. F. Holland, Ampthill; Dr. W. S. Handley, Lond.; Dr. G. S. Hatton, Newcastle; Dr. H. Henry, Debenham; Major E. C. Hare, I.M.S., Gloucester; Dr. W. S. Hall, Bradford; Mr. J. A. F. Hatch, Ardee, Ireland; Dr. P. Horton-Smith, Lond.; Dr. W. Hutchinson, Widnes; Dr. G. H. Harrisson, Holbeach; H. A. Y.

J.—Dr. A. H. James, Aberystwyth; Mr. D. Hill Jack, Glasgow; Dr. J.; J. D.; J. W. H.; J. A.; Mr. Y. M. Jones-Humphreys, Cemmaes; Mr. C. Johnson, Llantwit-Major; J. T. C. C.; J. S. L.; Mr. T. R. Judson, West Derby; J. G. O. N.

K.—Dr. S. J. J. Kirby, Harleston; Mr. E. W. Kemp, Castleford; Mr. B. Z. Kalra, Poonch, India; Messrs. Knight and Co., Lond.; Miss F. King, Rickmansworth; Dr. D. Kyle, Stanley; Mr. H. Knevitt, Lond.; Mr. R. A. Keys, Bagilit.

L.—Miss G. Lapworth Tilford; London Press Exchange; Miss L.; L. S. A., Lond.; Messrs. Loescher and Co., Rome; Miss Z. Longstaff, Lond.; L. H. B.; Dr. P. W. Latham, Cambridge; Lady Superintendent, Hove; Dr. W. J. Le Grand, South Normanton; L. L.

M.—Mr. J. P. Milton, Chagford; Dr. S. G. Moore, Huddersfield; Mr. G. Morland, Croydon; Moorcote Sanatorium, Eversley, Proprietor of; Moore, Lustleigh; Mr. F. H. Moore, Sibsey; Dr. E. J. Martin, Kirkby Lonsdale; Dr. A. MacLachlan Beauly; Dr. F. M. Morris, Ceres, South Africa; Dr. E. L. Mansel, Lond.; Mrs. M. Martineau, Lond.; Mr. J. Montford, Upton-on-Severn; Dr. Manishanker, Porbander; Mr. M. D. Makuna, Treherbert; Mr. T. B. Marshall, Tillingham; Messrs. Maruya and Co., Yokohama; Mr. Milne, Greenock; Messrs. Z. P. Maruya and Co., Tokyo; Mr. R. A. Morrell, Lond.; Dr. H. Murray, Kingstown; Dr. L. J. Minter, Hove; M. C.

N.—Mr. A. W. Nuthall, Edgbaston; Mr. J. B. Neal, Lond.

O.—Dr. H. O. Oppenheimer, Lond.; Messrs. Orellana and Co., Lond.; O. B.

P.—Dr. R. Peart, North Shields; Mr. F. Place, Lond.; Messrs. A. Picard et Fils, Paris; Parish of Paddington, Treasurer of; Dr. T. H. S. Pullin, Sidmouth; Mr. A. Pellant, Lond.; Dr. W. Pasteur, Lond.; P. A. H.; Mr. J. T. Penhall, Broadwas-on-Teme; Messrs. Pocock Bros., Lond.; Dr. W. P. Panckridge, Petersfield; Mr. H. M. Page, Lond.; Messrs. Perreaux and Co., Lond.; Plashet-lane (77), Upton Park.

R.—Mr. E. St. V. Ryan, Lond.; Mr. R. J. Roberts, Mountain Ash; Dr. A. A. Routh, Lond.; Dr. W. A. Raper, Battle; Dr. F. W. Robertson, Wimbledon; Dr. M. A. Ruffer, Alexandria; Dr. J. H. Rowe, Bradford; Dr. G. J. Robertson, Oldham; Mr. W. E. Richards, Manchester; Miss Roberts, Whittlesford; Mr. R. P. Rowlands, Lond.; Mr. A. McL. Ross, Colwyn Bay; Mr. W. Russell, North Lakhimpur, India; R. W. T. E.; R. B. W.; Dr. T. H. Redwood, Rhymney; Dr. A. Robinson, Rotherham; Dr. G. Rankin, Lond.

S.—Dr. T. Streatfield, Folkestone; Dr. E. G. Sworder, Folkestone; Dr. J. A. Shaw-Mackenzie, Lond.; Messrs. Spiers and Pond, Lond.; Dr. G. Snell, Southall; Dr. W. W. Seymour, Troy, U.S.A.; Messrs. Sharland and Co., Lond.; Messrs. Scott and Bowne, Lond.; Messrs. Spiers and Co., Glasgow; Mr. W. H. Spencer, Selby; Messrs. Street and Co., Lond.; Scholastic, Clerical, &c., Association, Lond.; Dr. R. Sinclair, Dundee; Smith's Advertising Agency, Lond.; Miss E. R. Saunders, Cambridge.

T.—Mr. J. Thin, Edinburgh; Mr. W. B. Thorne, Lond.; Mr. W. Turner, Lond.; Dr. J. Taylor, Lond.; Herr F. Topic, Prague; Mr. J. B. Thomas, Llangadock; Mr. W. E. Tarbet, Ledbury; Dr. E. Thurnam, Blagdon; Dr. R. H. S. Torney, Cowbridge; Taunton and Somerset Hospital, Secretary of; Dr. H. M. Tickell, Nordrach, Germany.

U.—Dr. H. Upward, Romford; Mr. H. Upcott, Lond.

V.—Major W. Vickers, I.M.S., Vizagapatam; Dr. A. Vost, Alva.

W.—Dr. R. W. West, Southport; Messrs. Wilcox and Co., Lond.; Messrs. Whitbread and Co., Lond.; Mr. H. J. Walker, Lond.; Dr. J. J. Welply, Bandon; Mr. W. W. Wykes, Huggiescote; Mr. E. H. Worth, Streatham; Dr. W. Winslow, Watlington; Mr. J. Walters, Abergwynfi; Mr. A. O. Watkins, Boscombe; Mr. T. H. Waller, Chelmsford; Dr. A. W. Wheatly, Lond.; Mr. F. A. Warner, Lond.; W. H. R.; Dr. V. Wandstrocht, Napton; Mr. E. R. Williams, Carmarthen; W. T. B.; W. H. H.; W. H. S.; Mr. J. J. Waddelow, Whittlesea; Mr. H. B. Wilkinson, Ivybridge; Dr. T. A. Wood, Douglas; Mr. J. Weddick, Wailuku, Hawaiian Islands; W. J. S.

Y.—Mr. N. E. Yorke-Davies Beaulieu.